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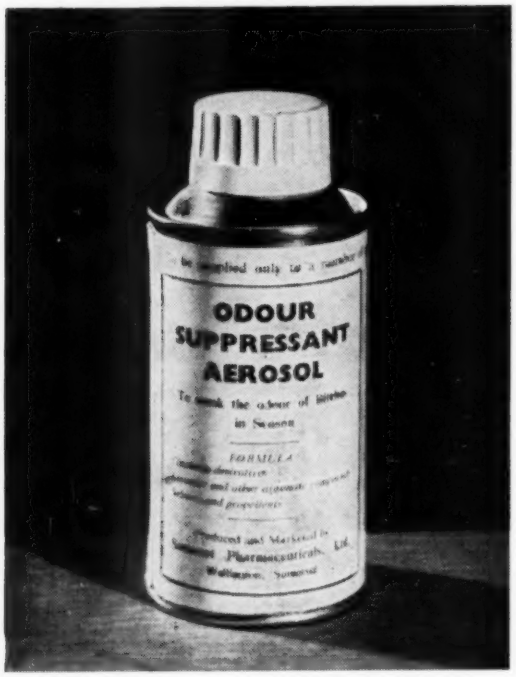

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The President's Address to the Association

LAST Monday, on the first day of the Annual Congress at Glasgow, the President delivered the traditional Address to the Association. Mr. Hignett, who was received with loud applause, said:—

"Since this, my Presidential Address, like all Presidential Addresses, comes at the end of the year of office, I feel justified in referring to it as the first verse of the swan song.

It is not without a sense of reverence that I address you now since, at the last Glasgow Congress, the Presidential Address was given by that outstanding member of our profession, the late Mr. Donald Campbell, who was also a great personal friend.

Looking back on the activities of the British Veterinary Association since the Folkestone Congress one has to admit that it has not been an outstanding year. For this, of course, I must take full responsibility. There have been few major developments. On the other hand, one can report steady progress together with an effective build-up for future offensives. Since this time last year there has been an increase of 124 in membership.

In British Veterinary Association circles this year marks the end of an era—the retirement of that very popular and above all, that loyal servant of the profession, Mr. Fred Knight, our General Secretary. There will be another opportunity to pay tribute to him and all he has done for us. His impending retirement has made it necessary for us to appoint a successor. After very careful consideration it was decided that the mantle should fall on Mr. John Anderson who, in addition to the secretarial duties, has taken on those of our Public Relations Officer. His has been indeed a difficult task to succeed a man of Fred Knight's standing but he has tackled it right manfully and those of us in close touch with him forecast a distinguished future. He has already made a number of valuable contacts with the Press and those responsible for radio and television programmes. He will, undoubtedly, achieve what so many of us have wanted, namely the publicity which our profession deserves but which is denied its individual members.

Happy Relationship with the N.F.U.

During the year there has, on the whole, been a continued improvement in our relationship with outside bodies, notably with the National Farmers' Union and the feeding-stuffs trade. In the case of the former, it is a delight to be able to report that whenever we have had meetings with representatives of the National Farmers' Union we have found that there was a very high level of unanimity. In fact, on several occasions, we have benefited from the whole-hearted support afforded by the Union. Later I shall dwell briefly on the subjects of contagious abortion and meat inspection, in connexion with both of which our views have been backed by those of the National Farmers' Union. It is pleasant to cast one's mind back and compare the acrimony which so often marred representative meetings of this Association and the Union with the very happy state of affairs at the present time. I cannot move from this joyful note without singling out particularly Mr. Salter Chalker, Chairman of the Animal Diseases Committee of the National Farmers' Union, who has been such a great friend of this Association.

We have worked very closely with the Royal College of Veterinary Surgeons to the mutual benefit of both bodies. We have certainly never hesitated to help each other to the utmost of our ability. Here it would probably be appropriate to mention it seems highly likely that, as the result of our joint efforts, the scheme for Animal Nursing Auxiliaries will soon be launched.

Once again a great deal of time has been devoted to the part which we can play in the field of meat inspection. Here I am happy to say that the prospects appear slightly brighter than they have done for some years past. The increasing tendency to employ practising veterinary surgeons on a part-time basis is giving us a foothold for which we hardly dared hope a few years ago. To help those called upon to do the work a scale of fees has been drawn up and this is available on request at our Headquarters.

On the other side of the account I have to report that we as an Association were most unhappy about the decision to recommend to the Minister of Agri-

culture, Fisheries and Food that a new class of meat inspector should be appointed. For what they are worth we have been given certain assurances that this will be regarded merely as a stepping stone to a much more satisfactory system of meat inspection in which the veterinary surgeon should play a major rôle, since it is hoped that *ante-mortem* inspection will receive due attention.

The Colonial Veterinary Service

We have had every reason to be greatly concerned about the position of members of our profession in the Overseas Service. Not only has inevitable independence in a number of overseas territories seriously affected the prospects of expatriate officers but, at the same time, a steep rise in the cost of living, without any corresponding increase in salary, has meant a marked drop in the standard of living of some members of our profession. It is greatly to be feared that vacancies occurring in the Service due to normal and early retirements and the difficulty in finding new recruits will lead to a breakdown of veterinary control with the inevitable return of the major epizootics. Repeated representations made to the Colonial Office have achieved little or nothing. As a result we are approaching directly some of the Governments concerned and are exploring the possibility of making a joint approach with other professional bodies. Nevertheless, I can only repeat that the future for many veterinary surgeons in the Colonial Service is indeed a bleak one. However, it is to be hoped, as a result of the inquiries now being made by a Salaries Commission, there will be a substantial improvement in the emoluments of veterinary surgeons serving in East Africa.

The year 1960 will have a historical importance in our profession if only for the fact that in January the British Veterinary Association launched its new scientific journal, *Research in Veterinary Science*. In spite of the forebodings of the faint-hearted, this publication has already proved to be an outstanding success. This state of affairs is due to the efforts of all concerned including the Editor of THE VETERINARY RECORD, the Editorial Board and especially the Scientific Editor of the new journal, Mr. Harbour.

TB Eradication and After

This year will also mark the eradication of bovine tuberculosis from our cattle—a signal triumph for the veterinary profession and the agricultural community at large. I would like to take this opportunity on behalf of the Association of offering heartiest congratulations to the Chief Veterinary Officer, whom we are very sorry not to have with us at this Congress, and to all members of his staff, both full-time and part-time, on the successful conclusion of such an ambitious and, above all, exceedingly important project. This of course immediately raises the question, where do we go from here? What disease of farm animals should next be considered for eradication? The view of this Association, based on careful consideration of public health, animal disease, availability of efficient diagnostic tests and of an effective vaccine, is that brucellosis in cattle should be at least one of the problems to be tackled in the near future.

During my year as President the Officers and our solicitor have devoted a great deal of time and thought to the Articles of Association, the re-drafting of which is demanded by the Board of Trade so that they comply with the Companies Act, 1948.

Our finances are in a much better position than some had dared to hope although with rising costs and ever-widening activities the bogy of an increase in subscription is still before us. Nevertheless, such an increase will not be necessary in the immediate future.

The Risks of Fragmentation

If one has the welfare of the profession at heart one cannot contemplate the increasing number of veterinary groups without some concern, because with the rise in the number of such bodies there is always the risk of a dissipation of effort so that the profession cannot face the general public on a united front. In addition, one cannot be happy about the poor attendance at many meetings of the geographical Divisions of this Association and the way in which members are represented on Council.

Although speaking to you as your President, what I am about to say does not reflect the official view of the Association. There has been a marked increase in the vocational Divisions, all of which have a big membership and are exceedingly active. Recently, veterinary clinical clubs have sprung up in various parts of the country. These latter groups are not affiliated to the British Veterinary Association but they are well supported and obviously fill a special need. Most of them are certainly far more virile than some of our geographical Divisions. This greater vigour could be due to several factors, *i.e.* less formality, the coverage of a relatively smaller area and the times at which meetings are held. In any case, would it not be in the interests of the profession as a whole if these clubs became part and parcel of the Association? What I am trying to suggest is that we might have a far more active membership if we had our present vocational Divisions and veterinary clinical clubs as well as the better supported geographical Divisions. This would, of course, call for a complete overhaul of our system of representation on Council but the more progressive members of our Association have, for a long time, realised that this is something already overdue. I might even suggest that the geographical Divisions and clinical clubs be represented on a Regional Executive which, in turn, is represented on Council. This would surely pave the way for a reduction in the size of Council and the running costs of the Association.

We have been called upon to present written and oral evidence to both the Terrington Committee considering the importation of Charollais cattle and the Peppiatt Committee which went into the question of levying a tax on betting. We were delighted that an ex-President of this Association, Mr. J. W. Bruford, was a member of the former Committee. It was very gratifying that in its report the Peppiatt Committee recommended that £100,000 annually from the sum collected should be set aside for horse breeding and advancement of veterinary science.

Another matter requiring urgent attention is that

of Congress venues. It is becoming increasingly difficult to find centres which can offer adequate hotel accommodation and facilities for scientific sessions, scientific demonstrations, a trade exhibition and our various social functions. It may well be that the time is not far distant when we are more or less compelled to have not more than six centres which we visit in rotation. This would, of course, mean a change in the arrangement whereby the Local Division entertains those attending a Congress, since no division could be expected to provide such hospitality at relatively frequent intervals.

Several of your Committees have been paying particular attention to the part the veterinary surgeon can play in the poultry industry now the second most important livestock branch of agriculture. Steps are being taken to arrange for courses of instruction in poultry management and disease. One of the big problems in attempting to bring the practising veterinary surgeon into this field is that of ensuring for him an adequate financial reward.

Although it would be invidious to attempt to refer to the fine efforts made by each of the various Standing Committees I would just like to say a word about the Technical Development Committee which, under the able chairmanship of Mr. J. B. White, has continued to work steadfastly for members of our Association. This committee does an enormous amount of work behind the scenes. Not only does the committee do a lot of work but it is exceedingly adept in stampeding other people into accepting quite onerous tasks. Mention of the Technical Development Committee leads on to special conferences which are arranged from time to time by the British Veterinary Association. After a lapse of several years one of these conferences, largely organised by Mr. White, will be held in London in November to consider from its many aspects the serious metabolic disorder—hypomagnesaemia.

Thanks to the efforts of my predecessor, now our Senior Vice-President, to our former President, Mr. G. N. Gould, and to Mr. Laurence Watkinson, the emergency scheme whereby practising veterinary surgeons run P.D.S.A. clinics during holiday periods has been extended—a natural outcome of the successful pilot scheme launched in 1959. It is to be hoped that this movement will gain momentum and that the liaison between our profession and this animal welfare society will become closer. During the year we have maintained a very happy relationship with other animal welfare organisations.

Our motoring activities have called for special attention from your Officers. After, for so long, pressing the Treasury for a review of mileage allowances paid to Local Veterinary Inspectors, we are pleased that there has now been some improvement in the rate. In addition, during the past year, names of local practising veterinary surgeons have appeared in A.A. boxes. This is something for which our former President, Mr. J. Ingram, has worked untiringly and, although he is far from satisfied with what has been achieved, we do owe him a great debt of gratitude for this recognition. We now have our own car badge in the design of which Mr. C. T. Murphy was so very helpful.

During the year the Association has become a group for the purpose of operating the British United Provident Association's scheme. This was in response to a number of requests from members who, however, are disappointingly slow in participating.

The Veterinary Products and Treatments Bill has occupied the attention of the Joint Veterinary Pharmaceutical Committee. Several major difficulties have been overcome and it is hoped in the not too distant future to discuss the Bill with the Ministry of Agriculture, Fisheries and Food.

Commercial Veterinary Research

And now I would like to refer very briefly to that section of the profession in which I am happy to find myself—the group of veterinary surgeons employed by commercial houses. Those of us in the group who are charged with undertaking veterinary research are proud of our collective achievements. One sometimes feels that the amount of money spent by the various pharmaceutical companies on fundamental and applied veterinary research is not appreciated by so many using their products. There are good grounds for believing that industry in this country is spending on veterinary research of a fundamental and developmental nature, a sum in excess of £500,000 per annum. There is no doubt that these efforts contribute very materially to increased knowledge of animal disease problems. It is only fair to mention that many of us working for these houses are given great freedom of action and are encouraged to do all we can to further the interests of our profession including attendance at Divisional, Committee and Council meetings of the British Veterinary Association.

I would like to pay tribute to all those who have supported me so whole-heartedly during my year of office, to my fellow Officers, to the Headquarters Staff of the British Veterinary Association, to my colleagues in the Wellcome Foundation who have made it possible for me to get away so often by taking on extra work and last, but by no means least, to my wife and family without whose support I just could not have undertaken this pleasant but onerous duty. In referring to my wife and family may I also pay tribute to wives and families of all veterinary surgeons—wives and families who sacrifice so very much for our profession particularly when it is necessary for the menfolk to attend meetings of Committees and Council of this Association.

In concluding my Presidental Address I would like to refer once again to the late Donald Campbell and quote from his concluding paragraph 22 years ago:—

'And now the tide of this year's work is ebbing out its last. Our ship is for a time in port; but only to refit and refuel for further voyaging; because as I see it, there is no end to its voyaging. The log book has been laid before you, and I have made my report, telling you on what tides we have sailed and what course we have steered. The voyage has not been without hazard or heavy weather, and perhaps a plate here and there has been strained a little, but the rivets hold tight and no leak has been

(*Concluded at foot of col. 1 overleaf*)

Refresher Article No. 18

Diseases of the Canine Eye*

BY

F. G. STARTUP

Worthing

Part III

The Uveal Tract

Congenital Abnormalities of the Iris

Whilst uncommon, the following conditions may be encountered.

1. Albinism, particularly in the Collie and Great Dane, which may be inherited. This is not associated with defective vision as in man.
2. Heterochromia iridis, a condition in which there are differences in the coloration of the iris, producing spots of a colour other than the basic colour of the iris.
3. Aniridia, or complete absence of the iris.
4. Coloboma, where part of the iris is missing, sometimes as irregular holes in the centre of the iris, sometimes as a deficiency at the pupillary margin, and sometimes as a wedge-shaped area with the base at the pupil.
5. Persistent pupillary membranes are relatively common, sometimes occurring as fine strands of iris across the pupil, and sometimes as strands from the iris to the posterior surface on the cornea. These membranes are of no significance.
6. Iridodenesis, or trembling of the pupil, may be seen in the Sealyham and Wire-haired Fox Terrier, indicating a weakness of the suspensory ligament of the lens.
7. Iridodyalysis, the separation of the iris from its root, leaving a gap through which may be seen the lens and part of the ciliary body.

Injuries to the Iris

As the result of trauma, the iris may become lacerated, or iridodyalysis may occur. In either case, hyphaema, or blood in the anterior chamber, is likely to be the sequel.

Deep penetrating wounds of the cornea may result in prolapse of the iris and its incarceration in the wound.

Mydriasis

Mydriasis will be exhibited following the use of drugs such as atropine or adrenaline ; in cases where the lens or cornea have increased density, and thus hinder the passage of light to the retina ; hypertension resulting from injury to the eyeball ; acute uveitis ; luxation or subluxation of the lens ; retinal disease ; poisons such as belladonna or strychnine ; and in hysterical states.

Unilateral mydriasis may result from disease, injury to or neoplastic conditions involving the oculomotor nerve. Involvement of both oculomotor nerves will produce a bilateral mydriasis. Lesions of the cerebral cortex do not produce mydriasis. The condition of anisocoria, or unequal size of the two pupils, must always be regarded as pathological. A persistent unilateral mydriasis is usually indicative of glaucoma.

Miosis

Miosis will be produced by drugs such as eserine and physostigmine ; in cases of acute keratitis, corneal ulceration and uveitis ; when the intra-ocular pressure is lowered ; in some affections of the brain and spinal cord ; and following the use of compounds containing morphine.

A pupil of normal size that fails to either dilate or contract is usually indicative of posterior synechia, or atrophy of the iris.

Smythe (1958) states that, as distinct from man, the pupil of the dog will contract for distant objects, and dilate for near ones.

Anterior Uveitis

Inflammation of the iris (iritis) and ciliary body (iridocyclitis) are usually co-existent, and are difficult to differentiate clinically. It is, however, most important to distinguish an acute iritis from an acute glaucoma, for the treatment of these two conditions will be very different.

The signs of an anterior uveitis may be somewhat variable, and will often be unilateral ; the sympathetic ophthalmia that occurs in man is not known in the dog. Cases of acute iritis exhibit marked pain, lacrimation, blepharospasm and copious exudate. There is usually some circumcorneal congestion, the pupil is contracted, and the iris immobile, dull and swollen. There will usually be some leucocytic exudate in the anterior chamber, sometimes hypopyon, particularly in deep corneal ulceration, and occasionally, the formation of keratitic precipitates—small masses of lymphocytes, visible as greyish spots, on the posterior surface of the cornea. There may be some increase in intra-ocular tension, and striations may form in the cornea due to oedema of Decemet's membrane.

An anterior uveitis may be the result of a specific

The President's Address.—*Concluded.*

sprung. It is now almost time for me to collect my shore-going clothes and step down from the bridge where I have been proud to walk. But another master will step up, and after him another, and another, in perpetual succession. To all who follow me I give the heartfelt wish of "Calm sea and prosperous voyage."'"

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* Parts I and II were published in THE VETERINARY RECORD of August 13th and 20th, respectively.

infection such as virus hepatitis, distemper, leptospirosis or toxoplasmosis ; it may be associated with focal infections in the teeth, tonsils, sinuses, prostate or uterus ; it may be a sequel to wounds, ocular operations or ulcerative keratitis ; in rare cases it may be tuberculous in origin.

The course of the disease is variable, and will be dependant upon the underlying cause. The most common complication will be posterior synechiae ; in some cases, the sequel may be secondary glaucoma, anterior synechiae, iris atrophy, vitreous opacities, corneal degeneration or endophthalmitis.

Treatment. The patient should be kept in a dark room, and prompt dilatation of the pupil should be effected by the use of atropine. This paralyses the ciliary body, thus relieving painful ciliary spasm, reduces the congestion of the iris and helps to prevent synechia formation. In cases where there is a tension increase, it is wiser to use mydriatics and miotics alternately.

The use of antibiotics and corticosteroids, locally, systemically or by subconjunctival injections should be considered, and Beamer (1959c) suggests the use of foreign proteins. Paracentesis, which may be repeated daily, will reduce the severity and duration of the attack (Magrane, 1959b). Sedatives may be given to relieve ocular pain.

Dry Iritis

This term is used for the condition in which there are adhesions between the iris and the cornea, or between the iris and the lens, when there has been no preceding inflammatory condition. If the whole of the pupillary edge is adherent to the lens, the iris will become ballooned by the pressure of the fluid in the posterior chamber. This condition—an iris bombé—is uncommon in the dog, and Smythe (1958) considers that this may be because the obstruction is overcome by drainage through the suprachoroidal space.

Posterior Uveitis

Inflammation of the choroid (choroiditis) is uncommon in the dog, but may be associated with anterior uveitis. Two types are said to occur—a diffuse choroiditis and a disseminated choroiditis.

In the diffuse type, early changes in the colour of the fundus are masked, in the dog, by the tapetum, but, at a later stage, the optic papilla becomes white and the retina shows light-coloured spots and streaks, sometimes accompanied by retinal detachment.

In the disseminated type, irregular greyish spots are found around the optic papilla. This type is apparently of no clinical importance.

Tuberculous choroiditis has been recorded in the dog.

Hyalitis

Inflammation of the vitreous body is rare in the dog, and when it does occur is usually the result of an intra-ocular foreign body. Complications may be haemorrhage and infection leading to an endophthalmitis. Cases not complicated by infection may lead to liquefaction of the vitreous. Such liquefaction —or synchysis—may occur spontaneously, and is occasionally noted during cataract operations.

Remnants of the hyaloid artery may sometimes be seen floating in the vitreous.

The Lens

Cataract

Cataract signifies any opacity of the crystalline lens or its capsule. There are many ways of classifying cataracts, such as congenital or acquired ; anterior or posterior ; hard or soft ; capsular, cortical, lamellar, perinuclear, nuclear or diffuse. From the clinical point of view, the best classification is probably as developmental, degenerative, complicated or associated with local or systemic disease (Heeley, 1958). The structure and physiology of the canine lens has recently been reviewed by Beamer (1959a).

Developmental cataracts are those in which the lens is affected during development, with consequent loss of transparency. This group, which is not common in the dog, includes congenital cataract and those cataracts occurring in dogs under 6 years of age. Hereditary factors may be involved, or the condition may be due to nutritional or inflammatory changes.

Cataracts in this group are usually bilateral, and may occur as anterior polar, lamellar, nuclear, posterior polar or, commonly, central posterior cortical. They are sometimes complete but are more often partial ; and may be so slight as to cause no apparent interference with vision.

Congenital cataracts have well-defined edges, and it is not usual for there to be any further increase during life.

Degenerative cataracts are the result of degenerative changes taking place within the substance of the normal lens. The lens gradually loses its transparency and this condition, although often bilateral ultimately, will usually affect one lens before the other.

This is the group of senile cataracts and is common in the dog, many over the age of 9 or 10 being affected in some degree. They may appear in both nuclear or cortical forms, usually the latter.

Complicated cataracts are the result of a disturbance in the nutrition of the lens. They affect the posterior capsule and may result from anterior uveitis, glaucoma, luxation or subluxation of the lens, posterior uveitis or retinitis.

Cataracts associated with systemic disease include those occurring with diabetes mellitus, allergic skin disorders and with poisons such as ergot, naphthalines and thallium.

Stages of Development

1. *Incipient*—in this stage there is some evidence of a commencing opacity, but vision remains normal.
2. *Immature*—the lens is largely, but not entirely, opaque, but the light reflex from the fundus remains normal.
3. *Mature*—in this stage the lens becomes smaller, and totally opaque. The light reflex is either impaired or absent.
4. *Hypermature*—the lens becomes smaller, and the cortex gradually liquefies (a Morgagnian cataract).

Aetiology

Some cases of cataract may have a definite and known cause, but most cases are of unknown aetiology.

Congenital cataract may be due to a failure of the hyaloid artery to regress ; to an abnormal arrangement of the lens fibres ; to a layer of droplets deposited between the cortex and the nucleus ; to injuries during gestation ; to maternal illness ; or to hereditary factors.

Senile cataract may be physiological in origin, being a symptom of old age or, again, hereditary factors may be involved. It may be due to a decreased permeability of the lens capsule, leading to nutritional deficiencies ; to the effect on the lens protein of absorbed radiation ; to generalised arteriosclerosis ; to endocrine dysfunction, or to chemical toxins.

Trauma, causing injury to the lens capsule, and subsequent absorption of aqueous and swelling of the lens fibres, will also result in cataract.

Symptoms

In a congenital cataract, the lens is soft, and the contents are fluid. The lens will appear bluish white or milky.

In early senile cataract, the subjective symptoms are of course absent, but there may be early impaired vision. Often there will be polyopia, resulting in a blurred vision, so that the dog will shy or bark at imaginary objects. Later, the vision becomes more impaired, and this is associated with an observable opacity of the lens. Nevertheless, many dogs are able to see quite well, despite marked changes in the lens substance.

An early senile cataract will often appear as a grey, diffuse radiation in the lens substance, and this must be distinguished from the grey opalescence of the normal senile lens. Using an ophthalmoscope, a normal senile lens will appear transparent, whereas a cataract will appear opaque.

In an incipient cataract, minute globules will sometimes appear beneath the lens capsule.

The lens is swollen in an immature cataract, causing the anterior chamber to be shallow. On reaching maturity, the lens is normal in size, and uniformly opaque, being either white or grey in appearance. Later, it becomes smaller and pearly white. The rate of development is very variable.

When examined with a slit lamp, complicated cataracts exhibit a polychromatic lustre, and there is a poor light reflex. The fundus may show choroiditis, and the cornea may show K.P.s.

Diabetic cataract may appear as a presenile form, that is, a senile cataract at the age of 4 or 5 ; or they may appear as a diffuse subcapsular opacity, anterior or posterior, at the age of 2 years. This latter type is often reversible with treatment.

The depth of the lesion may be assessed using an ophthalmoscope. If the observer's eye is moved laterally, central opacities will remain stationary, anterior opacities will move against the examiner, and posterior opacities will move with the examiner. A slit lamp is also of value in determining the extent and depth of the lesion.

Treatment

Medical treatment is of no avail, and the only treatment available is the surgical removal of the lens. The best results will be obtained in the juvenile types in the younger animals. In senile cases, despite successful surgery, there is a poor return of vision due to other changes in the eye, notably retinal degeneration. It is best to be guided by the pupillary reflex ; if this is not active there is little hope of restoring vision (Knight, 1958). If the pupillary reflex is active, and the dog is otherwise healthy, the operation is indicated in those cases where there is cataract of both eyes, resulting in blindness or marked impairment of vision. Despite the loss of the lens, the dog, which has great powers of adaptation to visual errors, will benefit from successful surgery.

Congenital cataract may be removed either by discission or by capsulectomy. In the operation of discission, a needle is introduced into the anterior chamber, *via* a paracentesis incision at the limbus, the point is directed to the anterior lens capsule, and a cruciate incision is made into the capsule. The needle is then introduced into the cortex, and this is broken up with a sweeping action.

Alternatively, a cystitome may be introduced into the anterior chamber, and the anterior capsule cut in several places, thus allowing the lens material to drain into the anterior chamber. The contents of the anterior chamber are then aspirated with a syringe ; any residual solid particles may be removed at the same time, by enlarging the incision, or at a later date if they fail to be absorbed.

Senile cataract may be removed by the operation of lendectomy. This may be by either extracapsular or intracapsular methods of extraction. In extracapsular lens extraction, the anterior lens capsule is opened and the lens is expressed through this opening, removing the nucleus and as much of the cortex as possible, but leaving the thin posterior capsule intact. In intracapsular lens extraction, the lens is removed intact in its capsule, after rupturing the suspensory ligament that holds the lens in position. The lens is subsequently extracted either by forceps applied to the capsule ; by an erisiphake ; or by pressure applied to the outside of the globe by a lens expressor.

Various techniques have been described for the removal of the lens from the dog. Authors in this country have been inclined to favour an incision in the cornea, just anterior to the limbus, in order to avoid the scleral blood vessels and damage to the iris. The cornea, however, does not heal well, and American authors prefer the corneo-scleral approach, with a conjunctival flap and preplaced sutures (Magrane, 1959a ; Beamer, 1959b). It is important that the incision is well made, and adequate, for too small an incision necessitates a dangerous amount of pressure on the eye in order to deliver the lens.

There are two ways of making the corneal section—the classical method using a cataract knife, and the alternative keratome and scissors section. The keratome and scissors technique produces a more even cut and seems to be the most favoured technique in canine work. It has other advantages in that the anterior chamber is better preserved throughout the section and there is less risk of the iris folding over

the instruments. Again, if pre-placed corneoscleral sutures are being used, it is easier to effect the passage of the keratome between the loops of the suture than is the case with the cataract knife. It is impossible, however, to make the incision large enough with the keratome alone, and the wound must be enlarged with scissors. Scissors, of course, have a squeezing effect and may have some harmful effect on the healing of the wound and possible future interference with the angle of filtration.

A cataract knife section produces a cleaner cut, with less trauma, and the section tends to be more oblique. A scissors section tends to be more vertical, and a vertical incision is liable to gape in its deep aspect. A vertical wound produces greater destruction of Decemet's membrane and subsequent gaping due to its elasticity. This may lead to peripheral anterior synechiae, loss of the anterior chamber and epithelial downgrowth into the anterior chamber. Surgically, the knife incision is to be preferred, but against this is the fact that, in the dog, a corneal incision will cause immediate loss of aqueous and a tendency for the knife to become engaged with the iris, and subsequent haemorrhage. This can be largely avoided, partly by making a clean, decisive and bold sweep with the knife, and partly by ensuring that the fixation forceps are held well forward.

It is the usual routine to instil atropine in the eye prior to cataract operations, but in some cases the resultant dilatation of the pupil is inadequate ; and the pupil tends to constrict with any aqueous loss. To produce further dilatation of the pupil, a subconjunctival injection of adrenaline 1 : 1,000 can be made just behind the limbus, or mydriasis may sometimes be achieved by gentle irrigation of the anterior chamber with a 1 : 10,000 solution of adrenaline. Formston (1957) recommends the injection of a little local anaesthetic into the anterior chamber, thus paralysing the sphincter iridis muscle for up to 12 or 24 hours—this facilitates section with little danger to the iris and tends to prevent post-operative prolapse. It must be remembered, however, that very full dilatation is not without danger from exposure of the anterior vitreous face around the lens. Miosis can be effected at the end of the operation by injecting sterile acetylcholine 1 : 200 into the anterior chamber.

Extracapsular extraction leaves the posterior lens capsular intact, and this minimises the risk of vitreous loss. The zonule is also left intact and, as the operation is, therefore, less traumatic than the intracapsular operation, there is less risk of damage to the iris and ciliary body. The disadvantages of this method are complications such as irido-capsular synechia formation, secondary cataract, iridocyclitis due to irritation from lens fragments left in the anterior chamber and, often, a poor visual result.

In this technique, toothed capsule forceps are introduced into the anterior chamber and applied over the centre of the anterior capsule ; the forceps are then opened for about 3 mm. and the teeth pressed gently backwards so as to engage the capsule ; they are then closed and drawn forwards and out of the wound. Alternatively, a circular cut may be made in the capsule using a cystitome, about 2 mm. anterior to the equator. The lens is delivered from the eye with the use of a lens expressor, aided, when the lens comes into the wound, by a sharp hook. The anterior chamber is then irrigated with warm normal saline, to remove fragments of lens tissue, taking care not to damage the posterior capsule, suspensory ligament and hyaloid membrane.

Intracapsular extraction will avoid the complications sometimes associated with the extracapsular method, the ideal being to extract the lens with its capsule intact, leaving the hyaloid membrane intact, if possible, and thus avoiding vitreous loss. To effect such an extraction, the lens must be detached from the zonule. The traction and push-and-pull manoeuvres that must be employed to effect this may result in rupture of the anterior lens capsule, damage to the iris and subsequent haemorrhage, loss of vitreous due to rupture of the hyaloid membrane, and, possibly, retinal detachment due to excessive traction.

Rupture of the suspensory ligament is effected by the combined use of capsule forceps and lens expressor. The anterior lens capsule is first grasped by the forceps, and the lens lifted forwards from the hyaloid fossa. Rupture of the zonule is started by the application of point pressure with the blunt end of an expressor, applied to the cornea just anterior to the limbus at 6, 4 and 8 o'clock. The lens is then rotated by the forceps, the expressor acting as a support. Finally, the lens is delivered using the forceps to hold the lens whilst the expressor gently lifts the lens towards the incision. The zonule in the dog is often resistant to efforts to effect its rupture, and excessive traction will often result in rupture of the anterior capsule. In such cases, the breakdown of the zonular fibres may be initiated by the use of a vectis, passed behind the iris towards the lens periphery. Rupture of the hyaloid membrane occurs frequently, and in many cases the hyaloid membrane will be found to be adherent to the posterior capsule of the lens.

Removal of the lens is followed by anterior chamber toilet, reposition of the iris and closure of the incision, using 6/0 silk.

Iridectomy is regarded by many authors as of doubtful value in the dog, although others, notably in America, carry out this procedure, as a routine, in all cases of cataract extraction.

Iridectomy signifies removal of part of the iris, as distinct from iridotomy which infers the division of part of the iris which may have occluded the pupil or formed adhesions with the cornea. The purpose of iridectomy, as a preliminary to cataract extraction, is to prevent the post-operative complication of iris incarceration and subsequent hydrophthalmos. It is also of value in glaucoma operations, iris prolapse, occlusio pupillae and in the removal of cysts and neoplasms.

Iridectomy in the dog has always been regarded as a somewhat risky procedure, because of the haemorrhage that results. The iris, in the dog, is a highly vascular structure which bleeds freely if damaged. Intra-ocular haemorrhage from the iris or ciliary body during an operation can be extremely persistent, and sometimes difficult to control. In addition, blood clot in the anterior chamber is sometimes difficult to remove and, if left, may cause a plastic iritis.

An iridectomy may be either peripheral or pupillary.

A peripheral iridectomy is performed in glaucoma operations, particularly of the trephine type ; and is also sometimes used in cataract operations to effect communication between the anterior and posterior chambers, and to reduce the risk of iris prolapse. This type of iridectomy will usually produce considerable haemorrhage, and, in simple cataract operations, an upper pupillary iridectomy is to be preferred. This does not cut through the larger blood vessels, and the amount of haemorrhage is usually slight. At the same time, the sphincter may be cut in the lower quadrant to prevent a drawn-up pupil (Magrane, 1959a).

To control haemorrhage from the iris, the use of adrenaline on the portion to be removed, before excision, has been recommended (Smythe, 1958), and Knight (1957) records the use of the electro-cautery with some success, provided the cautery is hot enough to prevent it becoming adherent to the iris. The small amount of haemorrhage experienced with a pupillary iridectomy can usually be controlled satisfactorily by soaking it up with small cellulose-sponge swabs held over the corneal section, separating the lips of the wound slightly so that the blood may be attracted to the swab. The capillary attraction of the swab will usually be sufficient, aided if necessary by gentle pressure over the cornea with a lens expressor. This should be followed by irrigation of the anterior chamber with warm normal saline. Any haemorrhage must be controlled before proceeding with any further steps in the operation. The use of thrombin, injected into the anterior chamber has also been recorded, and the parenteral coagulants, given pre-operatively, are of value.

Enzymatic Zonulolysis

The non-traumatic detachment of the lens, using the selective action of an enzyme upon the zonule, has been recorded in the dog (Startup, 1960). This technique enables the intracapsular method of extraction to be employed without the necessity of mechanical zonulotomy and its inherent disadvantages.

The enzyme employed — alpha - chymotrypsin — obtained from the bovine pancreas, has a selective action on the lens zonule and, when injected into the anterior chamber, causes subluxation of the lens within a few minutes of irrigation. Despite its action on the zonule, the enzyme appears to have no adverse effect on the other intra-ocular structures.

Intra-ocular Plastic Lens Implantation

The use of this technique was first described, in human ophthalmology by Ridley (1951), to overcome the visual defect in cases of aphakia, by means of an acrylic lens inserted behind the iris and in front of an intact posterior lens capsule. Simpson (1956a) records the use of a plastic lens in the dog, and describes both intracapsular and extracapsular methods of implantation. The lens used in all cases was of 11 diopters, that for the intracapsular operation being of 11 mm. diameter and, for the extracapsular operation, 14 mm.

In the intracapsular implantation, a broad 11- to 13-mm. iridectomy is performed just anterior to the base of the iris, parallel to the corneal section. After control of haemorrhage has been effected, the lens capsule is incised at the equator through the dorsal third of its circumference. The lens substance is expressed and the capsule irrigated to remove all the lens particles. The plastic lens is then inserted into the capsule, the iris smoothed into position, and the lens centred behind the pupil.

Extracapsular implantation is also preceded by a small peripheral iridectomy. Following this, an equatorial capsulotomy is performed, opening approximately the dorsal third of the capsule, and the anterior capsule is removed. The lens material is expressed by irrigation, and the plastic lens is pushed into the pupil. The iris is pulled out from behind the lens, so that it assumes its normal position, and the operation is completed in the usual way.

Plastic lens implantation is followed by an intense iritis, which subsides in 2 to 4 months. Recorded complications are iris prolapse, hyphaema, endophthalmitis and, rarely, panophthalmitis. Cortisone is recommended for the treatment of endophthalmitis, whilst, to assist the absorption of blood clot, the injection of 20 to 50 units of hyaluronidase subconjunctivally is suggested.

Anterior Chamber Implant

Patients in which the posterior lens capsule has been divided or removed are not eligible for an acrylic lens implant, and, in human ophthalmic surgery, an implant has been evolved that is placed in front of the iris and behind the cornea, with feet wedged in the anterior chamber angles, and carrying a central optical portion. The operation is carried out not less than 6 weeks after the cataract extraction, on a miotic eye, and the implant must be a tight fit to prevent it moving, irritating the iris and ciliary body, and causing a secondary glaucoma. The length of the implant inserted is 1 mm. longer than the 3 to 9 o'clock measurement white to white, and the insertion is performed through an 8-mm. incision made temporally 1 mm. on the corneal side of the limbus (Choyce, 1958).

Although no cases of this technique appear to have been recorded yet in the dog, it is understood that this procedure has been carried out in the dog using a Strampelli type implant. If successful, it should prove a useful method of improving the visual results of cataract extraction.

Luxation of the Lens

Luxation of the crystalline lens, due to rupture of the suspensory ligament, may occur anteriorly, into the anterior chamber, or posteriorly, into the vitreous. The latter is not common, and accounts for only about 5 per cent. of all cases. Anterior luxation may result in the lens presenting itself in front of the iris or, in other cases, the lens leaves the hyaloid fossa but remains behind the iris.

Subluxation is said to occur when the zonule is not completely disrupted, and only partial movement of the lens takes place.

This condition is known to occur most frequently in the Sealyham and Wire-haired Fox Terrier (Formston, 1945) or crossbreds of these breeds. Other cases have been reported in many other breeds,

including the Cocker Spaniel, Labrador, French Bulldog and Scottish Terrier.

Formston considers that it occurs more frequently in the female than in the male, and that the average age incidence is 3 to 4 years. Smythe (1958) considers that more cases occur between the ages of 4 and 6. The condition is usually bilateral, but will not necessarily occur in both eyes at the same time.

It is not known for certain whether luxation of the lens is a primary condition, arising from defects in the lens, or whether it is secondary to other ocular factors elsewhere than in the lens. Formston considers that it is an inherited condition, in which inherited organic defects terminate in a defective zonule. The actual luxation may be precipitated by trauma, but it is unlikely that trauma, unless violent, is the primary cause.

Course of the Disease

Luxation of the lens leaves the iris without support, and the resulting iridodenesis, or trembling of the iris, results in an anterior uveitis, giving rise to an increase in the protein content of the aqueous, a consequent rise in intra-ocular pressure, and secondary glaucoma. The pressure on branches of the oculomotor nerve supplying the sphincter iridis causes dilatation of the pupil which interferes further with aqueous filtration. Full dilatation of the iris will cause blocking of the filtration angle.

The rise in intra-ocular pressure causes further breakdown of the zonule, although the lens may not escape from the hyaloid fossa immediately due to adhesions to the hyaloid membrane. The final luxation may be due to disruption of the vitreous or to external stimuli. Secondary cataract and hydrophthalmus will ultimately develop.

The hydrophthalmic eye is accompanied by marked proptosis, the eyeball fills the orbit, and its movements are markedly restricted. The cornea is flattened peripherally and bulges centrally. There is marked scleral congestion, and a blue colouration of the sclera in the ciliary region as uveal pigment shows through the ectatic sclera. The central part of the cornea becomes dry, and a diffuse interstitial keratitis develops. At this stage the intra-ocular pressure is low, due to stretching of the sclera, and the eye is blind.

Posterior luxation usually causes no trouble, although there may be marked iridodenesis and total aphakia.

Symptoms

There are usually signs of transient pain, lacrimation and blepharospasm, with some visual loss, for 24 to 36 hours before the luxation is first noticed. Congestion of the anterior ciliary and subscleral vessels will be noticed, partial or complete dilatation of the pupil, and lack of pupillary reflex.

Iridodenesis is always present, and may be the only sign in the early stages. As the lens moves its position, an aphakic crescent appears, showing as a crescent-shaped area of bright green iridescence between the periphery of the lens and the periphery of the pupil. This aphakic area becomes larger as the lens drops downwards.

The cornea may become cloudy due to a posterior keratitis and the resulting visual impairment may lead to corneal injuries, keratitis and involvement of the substantia.

The diagnosis may be confirmed by examining the eye under a Wood's glass, when the lens appears opaque and may be easily detected.

Treatment

Treatment depends on the early removal of the luxated or subluxated lens, before the inevitable complications of secondary glaucoma and hydrophthalmus have developed.

The Retina and Optic Nerve

Congenital Abnormalities

Although rare in the dog, aplasia of the retina, tapetal coloboma and hypoplasia of the optic nerve have been recorded. Magrane (1953) reported a congenital condition in Collies, in which there was excavation and enlargement of the optic disc, some cases being associated with intra-ocular haemorrhage.

Retinal Haemorrhage

This, also, is a rare condition in the dog, probably because arteriosclerosis is rarely encountered in this species. Haemorrhage into the retina may occasionally be associated with trauma, and may sometimes be seen in the terminal stages of nephritis, septicaemia, hypertensive conditions, leptospirosis, diabetes and phosphorus poisoning. It may be either preretinal, in which case it is usually completely absorbed, or intraretinal, leading to permanent damage.

Detachment of the Retina

Retinal detachment, recorded regularly in the cat, is, again, very uncommon in the dog. The retina may come forward due to propulsion from behind, where there is a considerable exudate as in acute choroiditis, in retinal haemorrhages or in choroidal neoplasia ; it may come forward due to traction from within, in cases where there is liquefaction or loss of vitreous, or due to the shrinking of fibrous bands formed in uveitis ; or it may come forward due to retinal tears. In the latter case, the vitreous, particularly if it is fluid, may herniate through into the subretinal space and produce a detachment. Such tears, in the dog, are most likely to be traumatic in origin, although systemic or metabolic diseases may be responsible for retinal degeneration. Catcott and Magrane (1959) report retinal detachment due to degenerative diseases of the vitreous.

Retinal detachment is followed by sudden blindness, and the condition is easily detected by an ophthalmoscope. Radiating detachment shows as radiating folds around the optic papilla ; mammilated detachment shows as large, round, undulating folds ; a total detachment appears funnel shaped, the " funnel " being anchored at its smaller end at the papilla and opening out into a " cloud-like " structure at the large end. The vitreous is usually cloudy and floating opacities may be seen. The intra-ocular tension is usually reduced.

The prognosis in these cases must always be doubtful, for the surgical procedures that are adopted for

its relief in man, operations designed to localise the retinal hole and seal it by diathermy, do not appear to be applicable to the dog.

Papilloedema

Oedema of the optic papilla may be associated with advanced choroidoretinitis, or conditions causing a rise in intracranial pressure, such as cerebral tumours, cerebral tuberculosis or hydrocephalus.

The papilla is mushroom-like in appearance, the arteries constricted and the veins greatly dilated, and covered with a grey exudate.

Atrophy of the Optic Nerve

In this condition, which may occur in cases of retinitis, choroidoretinitis, brain trauma, intracranial haemorrhage and certain poisonings, the disc appears shrunken and pale, the arteries shrunken and the veins distended, and the papilla shows a yellowish discoloration.

Retinitis

True inflammation does not occur in the retina, but inflammatory cells may become deposited on the surface of the retina, and there may be infiltration around the vessels. Otherwise, retinitis occurs only as an extension of a choroiditis.

The presence of the tapetum in the dog makes a diagnosis of retinitis difficult. In some cases, the tapetum will appear dull due to a greyish exudate, which may conceal the retinal vessels. In other cases, the fundus may show grey or yellowish patches and, sometimes, a pigmentary degeneration will give a striped appearance. Tuberculous retinitis has been recorded in the dog.

Some breeds show marked melanin pigmentation in the retina, which sometimes hides the tapetum and may even involve the papilla.

Retinopathy

The various changes that take place in the retina, as a result of disease, have not been intensively studied in the dog, although many isolated case reports are available.

Parry (1954c) describes a central progressive atrophy in the Labrador, Golden Retriever, Border Collie, Springer Spaniel and Irish Setter, familial in the Retriever and Collie. In this, central vision was lost in middle age, whereas peripheral vision was retained until later in life. The same author (1955) records a central non-progressive degeneration in the Cocker Spaniel, probably congenital, familial but not necessarily hereditary.

Again, Parry (1953c) describes retinopathy following secondary glaucoma and again (1954a) he describes four types of retinopathy associated with virus infections. It is noted, however, that most cases of blindness associated with distemper virus are due to lesions of the visual apparatus central to the retina. Other cases of generalised progressive atrophy of unknown, but probably not hereditary, origin are discussed (Parry, 1954b).

Ischaemia of the retinal vessels, in which these vessels become kinked, with marked variations in calibre, has been reported following excessive doses of quinine, phenobarbitone and nicotine. It may also occur in leptospiral infections, due to arteriosclerosis of the choroidoretinal vessels.

Diabetic retinopathy would appear to be rare in the dog, possibly due to the fact that it will only occur after the disease has been in existence for a long time. In this condition, oedema and haemorrhage around the optic papilla has been described, giving a "cotton wool" appearance, together with yellowish white spots in the retina and sometimes glistening crystals of cholesterol.

Progressive Retinal Atrophy

The condition of progressive retinal atrophy in Irish Setters has been investigated by Hodgman *et al.* (1949), and Parry (1953b), who described this condition, noted clinically by defective vision first at night and later in daylight, and associated with atrophy of the receptor cells of the retina with reduction of the retinal blood vessels. They concluded that the condition was hereditary, probably a simple Mendelian autosomal recessive factor.

First signs are seen when the pups are 6 to 8 weeks old, at which age vision at dusk and in daylight is normal, but there is increased reflection from the tapetum, which appears green rather than the normal yellow-orange-green colour. There is progressive loss of vision, at first in dusk or at night, over months or even years, until there is complete night blindness and, at a later stage, day blindness as well. The pupillary reflex is usually retained although there is some increase in pupil size, both pupils remaining equal.

The remainder of affected eyes is normal, but some cases develop anterior subcapsular cataracts, occasionally as early as 4 months old. It was also noted that sexual abnormalities were common in affected dogs. Tests for defective vision are best made in dusk light.

In the early stages, there is little or no change in the fundus, although the tapetum is found to be highly reflective and the green colour more prominent. In the second stage, the tapetum has a marked green colour, and a "crystalline" appearance. The optic disc appears more pallid, and, although the larger vessels are not affected, the small vessels, both of the tapetal fundus and the disc, and also of the non-tapetal fundus, are less numerous. In the third stage, the disc appears white and its margin irregular, the small vessels are absent, and the larger ones are reduced in size; the tapetum is highly reflective and crystalline, the fundus vessels are scanty and the non-tapetal fundus shows a grey colour.

Confirmation of the disease may be obtained by test-mating the suspected animal to a known affected animal of the same breed, preferably of a closely related strain. In a positive case, all the progeny of such a mating will be affected.

Retinal Neoplasia

Retinoblastoma, or so-called "glioma," fairly common in man, is rare in the dog. Melanotic sarcomata, involving the retina, are occasionally seen.

(*Concluded at the foot of page* 731)

Ryegrass Staggers in Sheep

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SUMMARY.—A condition closely resembling ryegrass staggers, as described in New Zealand, has been investigated in two flocks of sheep. The clinical findings are described, and the type of pasture and its treatment are recorded. There were no relevant pathological findings.

The summer of 1959 was marked by the lowest rainfall ever recorded in England and Wales, with a level of only 7.5 inches of rain between May and September. Monthly figures for sunshine were consistently high and were 26 per cent. above normal from May to August. Severe drought was experienced and pasture growth was poor in late summer, many fields appearing burnt and brown. In the autumn reports were received of nervous conditions in sheep and two outbreaks in widely separated flocks were investigated.

Outbreak I

History

EIGHT pedigree Suffolk lambs in excellent condition were affected in a flock of 110 lambs and 75 ewes. The lambs were between 6 and 7 months of age and the first signs of illness were seen during the first week of October, 1959. The disease occurred on a pasture which the lambs had been grazing from September 3rd. Previously this pasture had been rested from the end of July, and the grasses showed many flower heads. In early October ergot sclerotia could be found affecting a few rye grass heads. There was not a heavy infestation at this time and it is not possible to state whether or not a heavy infestation had existed earlier. During October the field was very dry and showed extensive cracking. The pasture had been undersown to barley at the rate of 24 lb. per acre, during May, 1958, and the mixture consisted of:—

20 lb. New Zealand Perennial Rye Grass.
2 lb. New Zealand Red Clover.
2 lb. Wild White Clover.

The pasture had received 4 cwt. per acre of a 5:12.5:12.5 ($N:P_2O_5:K_2O$) compound fertiliser at the time of sowing. Fresh water was carried to the lambs daily. At the time of the illness, the lambs

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Diseases of the Canine Eye.—*Concluded.*

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were receiving ½ lb. each per day of concentrates in the form of a creep feed.

Clinical Syndrome

The clinical signs were similar in all the affected animals, which although fully active, developed a stiff-legged "rocking horse" like gait if disturbed. After proceeding in this way for a short distance an affected lamb would keel over on its side, with its limbs stiffly extended. This would be followed by a period of active paddling with all four legs and then the animal would sit up, appear rather surprised, regain its feet and rejoin the other sheep. When a sheep fell in this way one or two others would fall over the struggling animal and a general mêlée would result. All the lambs were removed from the pasture and recovery was spontaneous. After 3 weeks it was not possible to pick out the affected sheep, none of which had deteriorated in physical condition.

Diagnostic Procedure

Blood samples were taken from 3 lambs showing clinical signs. Blood inorganic phosphorus and serum magnesium, calcium and acetone values were found to be within the normal range. One severely affected lamb was destroyed with pentobarbitone sodium. Sections of the brain and spinal cord showed no obvious histological abnormalities. A subacute inflammation of the biliary ducts was seen resembling the changes present in recent liver fluke infestation. No kidney lesions were found. There was no evidence of muscular dystrophy. Bacteriological examination of the brain and meninges proved entirely negative. The material was recultured after retaining at 4° C. for a week, again with negative results. The vitamin A content of the liver of this lamb was found to be 168 I.U. per gramme of wet tissue.

In view of the presence of ergot sclerotia in the pasture, and the fact that ergot intoxication has been considered a possible factor in certain convulsive syndromes in sheep (Clegg, 1959), the liver of the slaughtered lamb was examined by Dr. S. Wilkinson of the Wellcome Research Laboratories for its alkaloid content. The alkaloid fraction of the extraction produced only the faintest reaction with dimethylamino-benzaldehyde. Examination of this fraction by paper chromatography revealed a faintly blue fluorescent spot in the ultra-violet, corresponding to ergotamine but of an intensity far too low to estimate. As this represented half the total alkaloid fraction from 560 grammes of liver it can be concluded that the whole organ contained only the merest traces of this alkaloid.

Sclerotia collected from the dried rye grass heads in the field gave a value of 0.31 per cent. total alkaloids of ergot, which is not a particularly high level. Paper chromatographic analysis of these alkaloids showed ergometrine, ergotamine and traces of the ergotoxine group of alkaloids, and the chromatogram showed no unusual features.

Outbreak II

History

The flock, consisting of lambs, shearlings and ewes, was first seen during the last week of September, 1959, at which time approximately 25 lambs and shearlings were showing symptoms. Sheep had been seen ailing since early August but the incidence of the condition appeared to be increasing. The animals in question were Suffolk × Leicester, grazing 3 separate pastures, one group some 2 miles distant from the other two. There had been no interchange of animals between the groups since April, 1959. The pastures were predominantly stemmy rye grass and at the time of the visit most of the flower heads had been eaten. Ergot sclerotia were identified on a few of the flower heads. No appreciable rain had fallen during the preceding 2 months.

The pasture was sown in a nurse crop the previous year with 19 lb. of mixture to the acre of:—

3 lb. Rye grass.
8 lb. White Clover.
4 lb. Red Clover.
2 lb. Trefoil.
2 lb. Alsyke.

Water was available on tap to the ewes and lambs throughout the period but gimmers were without water all summer. It is interesting that the same mixture of seeds had been used during the previous 8 years without the disease syndrome being seen.

Clinical Syndrome

The signs shown by affected animals were identical with those seen in the first outbreak. Increasing numbers of the sheep fell when the flock was driven and it was difficult to assess the number which would ultimately have become recumbent. None of the sheep died during the outbreak.

Some 2 weeks after the first visit similar signs were seen in a number of the ewes in one group. At this time 10 of the worst affected shearlings were removed and the remainder fed trough concentrates and minerals. Five days later the shearlings which had been removed to much better pasture were apparently normal. No improvement was seen in the remainder until moved to fresh pasture in mid-October, when all slowly regained normal health.

Diagnostic Procedure

Blood samples taken from 4 affected lambs were found to have serum magnesium and acetone levels within the accepted normal range. Blood copper values were also normal. Serum samples were submitted to the Sabin-Feldman dye test for toxoplasmosis, all results being negative. One affected lamb and one affected shearling were destroyed. *Post-mortem* examination of both these animals failed to reveal any significant lesions. Bacteriological examinations of the brain were negative. Brain emulsion was inoculated subcutaneously into mice, none of which died and subsequent examinations for the presence of toxoplasma pseudo-cysts were negative. Sections of brain and spinal cord of both animals showed no histological abnormalities.

Discussion

According to Cunningham and Hartley (1959) the condition known in New Zealand and termed "rye-

grass staggers," is characterised by tetanic muscular spasms that develop under certain conditions of grazing in sheep, cattle and horses. Sheep are most frequently affected and it is suggested that it is because of their ability to graze more closely to the ground. The clinical signs vary in severity from slight spasms and stiffness of the limbs after running, to an inability to make any movement without falling over in a tetanic spasm. Spontaneous and complete recovery nearly always ensues after moving to a fresh pasture, but recovery does occur on the same pasture following rain and the growth of new grass. No lesions of the central nervous system have been found, and the occasional changes in the skeletal musculature which have been described are undoubtedly secondary.

It is considered that the outbreaks of disease described in these 2 flocks resemble in every way the disease known as ryegrass staggers. The clinical signs are similar and no pathological changes have been demonstrated in the central nervous systems or viscera. The conditions of its occurrence are also similar in that, as in New Zealand, the pastures on which the affected animals grazed contained a considerable proportion of perennial ryegrass. Hopkirk (1935) discussed the possible association with a shortage of vitamin A occurring on dry pasture in the late autumn. The grass may not have reached seeding stage and may be particularly short when staggers occur; for these reasons many authorities consider that ergot cannot be responsible for the outbreaks. Armstrong (1935) has seen the condition on what he considered to be ergot-free pastures.

The conditions occurring in this present outbreak might have been associated with falling vitamin A reserves in the flock, even though the analysis of the lamb liver in the first outbreak did not show a low level. The drought and the state of the pastures would undoubtedly be responsible for a reduced carotene intake. In experimental avitaminosis A in sheep (Eveleth *et al.*, 1949: Lindley *et al.*, 1949), some of the signs that were described included excitability, inco-ordination, mild convulsions and abnormal head posture. However, Cunningham and Hartley (1959) administered a single dose of 100,000 I.U. of vitamin A to each of a group of wethers on a pasture where ryegrass staggers frequently occurred. This treatment did not effect a cure of animals which were already affected, nor did it prevent the development of further clinical cases. The possibilty of ergot intoxication occurring as an additional factor associated with falling vitamin A levels may exist. A connexion between the convulsive form of ergotism in man and poor diets lacking in vitamin A has long been considered. However, the muscular spasms were not so severe, or as prolonged in the case of convulsive ergotism, and recovery appears to be spontaneous in ryegrass staggers. Moreover the condition of the sheep was good, as distinct from the poor physical condition which may be found in the nervous form of ergotism.

Cunningham, Swan and Hopkirk (1944) conducted feeding experiments in sheep with ryegrass ergot and failed to produce any signs resembling staggers.

Clinical Note

An Unusual Case of Hydrops of the Chorioallantois in the Cow

E. A. HOLT

Grenada, West Indies

Subject.—A " scrub " heifer aged 2½ years.

History.—The owner stated that the heifer went to the bull in August, 1958 (19 months previously). There had been no subsequent return of heat and when the heifer had increased last year to the size seen on February 26th, 1960, the owner assumed that she was in calf. Her appetite had been poor. The day before examination she had started to strain considerably and had not eaten for 4 days.

Examination.—There was gross bilateral distension of the abdomen. The heifer's behaviour was vigorous, and although her general body condition was poor it was not abnormally so by local standards. Temperature was 101·1° F. *Per rectum* the uterus was

(*Concluded at the foot of page* 734)

Ryegrass Staggers in Sheep.—*Concluded.*

Cunningham and Hartley (1959) also state that sclerotia can play no part. They suggest a possible toxin in the grass. Cunningham (1958) has not been able to demonstrate any toxic effects in stock as a result of feeding endophytic fungi from pasture grasses.

A condition in this country affecting sheep on Romney Marsh has been described by Chesney (1953). This condition, known as " Migram," occurs during dry weather when keep is short and when sheep are seen to be drinking brackish water in the ditches. In this condition, also, recovery occurs spontaneously after heavy rainfall.

Acknowledgments.—We wish to acknowledge our thanks to Dr. S. Wilkinson of the Chemical Research Laboratory of the Wellcome Research Laboratories for carrying out the estimations of ergot alkaloids on material from the first outbreak; to Mr. G. T. R. Evans for arranging for this to be done; to Dr. S. Terlecki of the Pathology Department, Weybridge, and Dr. I. Zlotnick of the Moredun Institute, Edinburgh, for the examination of the central nervous system.

We are grateful to Mr. F. R. Slinger, M.R.C.V.S., and Mr. H. B. Steele, B.SC., M.R.C.V.S., for bringing these cases to our notice.

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Samuel Bardsley and the History of the Prevention of Rabies

BY

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SAMUEL Argent Bardsley, 1764-1850, was born at Kelvedon in Essex. He began his medical studies at the age of 15 when he was apprenticed to a surgeon at Nottingham. He continued his studies in London and Edinburgh, finally entering the University of Leyden in August, 1786, and graduating in 1789. After a year in Doncaster, where he thought of setting up in practice, he went to Manchester and was elected Physician to the Manchester Infirmary—a post which he retained until his retirement in August, 1823.

It is interesting to note what the London Medical Gazette had to say of him in his Obituary. "Dr. Bardsley was a man of uncommon powers and attainments. Though possessed of no remarkable depth or originality of mind, there was yet a keen sagacity and accuracy of observation, that to a practical physician, were not probably of less importance."

Unremarkable though the London Medical Gazette thought him, Bardsley read a paper on October 15th, 1794, to the Manchester Literary and Philosophical Society which anticipated Blaine—generally considered one of the first to proclaim rabies as a specific disease—by a number of years.

In this early paper Bardsley was mainly concerned with what he considered to be an unusual case of hydrophobia in man. He did mention, however, that the year 1794 saw a great increase in mad dogs, and that no less than 40 people who had been bitten applied to the Manchester Infirmary in a fortnight. The increase of the disease in dogs and the consequent ravages of rabies among people, he said, called for speedy attention by the Government. They alone were capable of establishing a plan to eradicate the disease. Bardsley was convinced that rabies in the dog was not spontaneously generated—although this was not the common opinion at that time. He quoted Hugo Meynell, with whom he had communicated, who said that he had kept his pack of hounds free of rabies by making each newcomer perform a period of quarantine before joining the pack. Meynell also stated that the disease usually appeared about a month to 6 weeks after the bite; a fortnight being the shortest, and 8 months the longest period to elapse, in his experience, before the appearance of the disease. Bardsley then went on to say that if Meynell's assertions were established "it forms a strong presumption that the disease is always produced by an actual communication of the poison of an infected animal." If this were the case then an "Act of Legislature" to keep all dogs confined for a certain time would be adequate to prevent the

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Hydrops of the Chorioallantois in the Cow.—*Concluded.*

grossly distended but no calf could be felt. In making an examination *per vaginam* difficulty was found in passing the vulva but the cervix was found to be dilated and the water bag protruding intact.

Diagnosis.—A diagnosis of hydrops of the foetal membranes was made.

Treatment.—Consideration was given to rupturing the membranes *per vaginam* in the hope of a subsequent abortion, but it was decided to operate.

Caesarean Section.—An incision was made in the left flank under paravertebral anaesthesia. The uterus was incised and the chorioallantoic membrane then protruded. A small incision was made in the latter and fluid was allowed to escape at a slow rate until the flow stopped. The incision in the flank and uterus was extended and fluid escaped more rapidly. With difficulty the calf was reached in the opposite horn and removed with the foetal membranes which were not attached to the uterus. The calf had reached full term. There was no oedema but it had a bull-dog head. It was a male. The caruncles of the membranes, which were not oedematous, had atrophied.

The uterus was repaired with chromic catgut using a continuous Lembert suture. The abdominal wall was repaired with nylon (0·75 mn, breaking strain 50 lb) using a vertical mattress suture, each suture passing first through skin, muscle and peritoneum, and then through skin only. Two pieces of rubber tubing were incorporated in each suture. Six mega units of penicillin were administered intramuscularly and the wound was dusted with sulphanilamide powder.

Prognosis.—The prognosis was poor.

Post-operative Progress.—The sutures were removed at 7 days and the cow made an uneventful recovery.

Discussion.—The inference from the owner's statement is that, following death, the calf remained in the uterus without mummification for 10 months, mummification being prevented by the large quantity of fluid in the uterus.

The owner had kept the animal tethered and he maintained that she could not have been served after August, 1958. The owner's account was supported by neighbours.

The caruncles of the membrances were atrophied and separate from the maternal cotyledons. There would be no increase in girth once the cotyledons and caruncles had separated as no further fluid would pass into the foetal membranes.

disease (6 weeks would probably be sufficient).

In 1807 Bardsley produced a book entitled "Medical Reports of Cases and Experiments with Observations, Chiefly Derived from Hospital Practice." In it, persuaded by some friends, he reproduced the paper he had read to the Manchester Society; but the paper had a significant difference, it dealt at greater length with rabies in the dog, and also put forward his own plan to rid the British Isles of the scourge. In fact the latter part of this work shows that he had done some more research into the matter since his paper of 1794.

The paper that was read to the Manchester Literary and Philosophical Society was reproduced in its entirety in Bardsley's book of 1807. Meynell's information, however, conveyed largely in footnotes in the former, was included in the text of the latter. At the end of the paper Bardsley then added his plan. It was simple and consisted of "establishing a universal quarantine for dogs within the kingdom, and total prohibition of the importation of these animals during the existence of such quarantine." He realised that the efficiency of his plan hinged on three propositions: 1, that the disease originated in dogs; 2, that it never arose spontaneously; 3, that once the dog had been infected the disease never remained dormant more than a few months. If this were the case then it followed that "by destroying every dog in which the disease should break out during strict quarantine, the propagation of the malady would not only be prevented, but the absolute source of the poison entirely cut off."

Bardsley admitted that he had not enough evidence to state how long a period the virus might lie dormant. He therefore relied on information supplied by Meynell, and all the available literature. From this he concluded that 10 days was the shortest, and 8 months the longest period to elapse between a bite and the appearance of the disease. He considered, however, that 8 months' quarantine would not only be "erring on the safe side," but also inconvenient. In the light of the evidence at his disposal the incubation period was usually 3 weeks or a month and he proposed that 2 months would be sufficient time for imported dogs to remain in quarantine.

Having put forward this idea Bardsley then asked members of the medical profession to acquaint him with their views on his proposals before the drawing up of any scheme which could be submitted to Parliament. It appears that support was not forthcoming as nothing more was heard of it.

Quarantine for dogs entering this country was not imposed until September 15th, 1897, when the Board of Agriculture Order, prohibiting the importation of dogs into Great Britain from any other country (except Ireland and the Isle of Man), became effective, and no dog might be landed without a licence. The Order gave the Board the power to insert on any licence such conditions as they thought necessary for the detention and isolation of the dog for any period not exceeding six months. At the same time certain sections of the Diseases of Animals Act (1894) were extended so that dogs were "animals" and rabies a "disease," and therefore subject to the provisions of the Act relating to offence and procedure.

This was the first real step towards Bardsley's vision of a country free from rabies. Before 1897 the muzzling of dogs in areas where there had been outbreaks of rabies had been enforced, but as many people had pointed out only muzzling throughout the country would achieve the desired effect; rabid dogs did not respect county boundaries. By 1902 the country was free of rabies and remained so until 1918 when dogs were smuggled in after the war and some outbreaks occurred around Plymouth.

It would therefore seem that, far from being a man "possessed of no remarkable depth or originality of mind," Samuel Bardsley arrived at the right conclusion a century before quarantine for dogs was introduced.

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THE MILK (SPECIAL DESIGNATION) REGULATIONS, 1960

New regulations, made by the Minister of Agriculture, Fisheries and Food and the Minister of Health, will be introduced shortly.* They govern the conditions under which specially designated milk —tuberculin tested (T.T.), pasteurised and sterilised milk—may be sold. The purpose of the regulations is to ensure that the milk is produced, bottled and distributed, and in the case of pasteurised and sterilised milk effectively heat-treated, under such conditions that it reaches the public in a clean, safe condition.

The regulations replace earlier regulations with amendments to take account of modern methods of dairying. New and modified tests for T.T. and pasteurised milk will be introduced and the issue of dealers' licences simplified.

The issue of licences to producers of T.T. milk will continue to be the responsibility of the Minister of Agriculture, Fisheries and Food, but the issue of dealers' licences for the sale of specially designated milk will be made the responsibility of the Food and Drugs Authorities.

The regulations will come into operation on October 1st, 1960, as regards producers' licences and January 1st, 1960, as regards dealers' licences.

* The Milk (Special Designation) Regulations, 1960 [S.I. 1960, No. 1542]. Copies may be obtained from Her Majesty's Stationery Office, price 1s. 3d. or by post 1s. 5d.

The New President of the British Veterinary Association

AT the Annual General Meeting of the Association on August 29th held in the Bute Hall, Glasgow, the unanimous recommendation of Council that Mr. Sydney Jennings, M.R.C.V.S., Senior Lecturer in the University of Glasgow Veterinary School be elected President of the B.V.A. for the year 1960/61 was enthusiastically approved. Mr. Jennings thus sets the seal upon his many years' service for the Association, during which time he has been a Councillor for 20 years, representing successively the Society of Veterinary Practitioners (as it used to be called), the Scottish Metropolitan Division, the Scottish Branch and the West of Scotland Division. He has served on a number of Standing Committees, is known widely throughout the profession, and has been, of course, Junior Vice-President during the past year.

At intervals over a fairly long period of years, the academic side of the profession has furnished a number of Presidents and the history of such presidencies has been a uniformly happy and successful one. This year's election will maintain most fully what has become a high tradition.

Mr. Jennings was born in Worcestershire, though at an early age he was taken to live in Warwickshire and regards himself more as a native of that county. His father farmed there as a subsidiary means of livelihood, and it was as the result of his early interest in farm animals that Mr. Jennings wanted to become a veterinary surgeon. He was educated at Warwick School and at the Royal (Dick) Veterinary College from which he graduated in 1932. During his boyhood his education was interrupted, and for 3 years owing to altered family circumstances he was employed in a warehouse. He looks back on this period, however, not only without resentment but with approval, and has felt that manual work with boys of a different stratum of society had its own compensations. Hardships are occasionally said to disillusion, but anyone less disillusioned than Mr. Jennings it would be difficult to imagine.

During this period, which must have been one of some frustration for an ambitious youth, he never lost his desire to become a veterinary surgeon and spent most of his evenings in formal classes and in private study. Thus, when he was able to return to Warwick School in 1923, he had not lost ground.

As an undergraduate of the "Dick" Mr. Jennings combined Rugby football with music—he played the violin in Dr. Bradley's "Quaverers"—service in the mounted O.T.C. and debating, having been secretary and later president of the Dialectic Society. London graduates will be interested to know that he represened the "Dick" in the first football match to be played between that College and the Royal Veterinary College.

Within a few weeks of graduating, Mr. Jennings married Miss Dorothea Clark who had been reading Arts at Edinburgh University. She was the daughter of one of his old masters at Warwick School: he was known by everyone as "Mr. Chips," having taught in the school without a break for 49 years and being held in the highest esteem by generations of boys, every one of whom he seemed able to remember individually. The new graduate and his young wife decided to plunge into their own practice straight away, and Mr. Jennings put up his plate at Knowle in Warwickshire. He achieved an almost immediate and substantial success, building up the practice to such effect that after 7 years it employed 5 veterinary surgeons. It then passed into the hands of Mr. A. V. B. Foster who later removed the headquarters of the practice to Solihull.

During the early war years Mr. Jennings was active in the Survey Scheme of the N.V.M.A., as it then was, and visited a large number of practices in counties between Cornwall and Lincolnshire. He gave tuition in pregnancy diagnosis and infertility treatment at a time when such work was something new in the veterinary field, and helped to make history by setting up, in 1941, the first commercial cattle A.I. centre in Britain. Subsequently at a number of B.V.A. Divisional meetings he gave demonstrations of the collection and examination of bull semen.

At the end of the war Mr. Jennings decided to enter the academic branch of his profession, a choice to which he has remained faithful ever since. He was appointed Senior Lecturer in Veterinary Medicine at the Royal (Dick) Veterinary College, and having served there with notable ability for 6 years, accepted the appointment of Senior Lecturer in Veterinary Surgery in the University of Glasgow. There he specialises in large-animal surgery and in problems of reproduction in various animal species. He also devotes a certain amount of his time to veterinary jurisprudence. He is a very well known and welcome lecturer at B.V.A divisional meetings all over the country, and has read papers, accompanied sometimes by practical demonstrations, on 29 occasions. The list of his published works is a formidable one, and among a number of other journals THE VETERINARY RECORD has good cause to be grateful to him. Learned and professional bodies outside our Association to whom he has lectured include the Societe de Veterinaires Chirurgiens, the Society of Animal Breeding, the Society for Endocrinology, the Royal Physiological Society and the Glasgow Obstetrical and Gynaecological Society. Of recent years Mr. Jennings has made specialised studies on methods of anaesthesia and has given a number of lectures and demonstrations on this subject in addition to contributing to the literature.

On a more personal and informal note, the new President has a great reputation among all those who know him as a wit and a mimic. One may venture to say that had he not made his name as a veterinary surgeon he might have achieved no small reputation on the stage. He has modestly described mimicry as "the lowest form of art" but his own mimicry has about it almost a touch of genius which is enhanced by the fact that when he

Mr. SYDNEY JENNINGS, M.R.C.V.S., President of the British Veterinary Association, 1960-61.

"takes off" well-known members of the profession, it is done with a rich geniality and without a vestige of criticism.

Mr. Jennings, in the past 20 years, has placed the Association very much in his debt, and it is fitting that his colleagues should invite him to lead them thereby conferring on him the highest honour it is in their power to bestow. He has thought deeply about the Association, its problems and its future, and it may be that the next 12 months will be as stimulating as the most ardent enthusiast for the B.V.A. could hope. Mr. Jennings has distinguished qualities of mind and of character, and will, without any doubt, leave his stamp upon the high office to which he has been called.

The New Junior Vice-President of the British Veterinary Association

The Annual General Meeting unanimously accepted the recommendation of Council that Mr. A. G. Beynon be elected Junior Vice-President for the year 1960/61. Thus is another name added to the distinguished list of veterinary surgeons in the Ministry of Agriculture who have been called to office in the B.V.A. Welsh members of the profession will take pride that, so far as can be ascertained, Mr. Beynon is the first Welshman to become President-elect—and thereafter presumably President—of the B.V.A.

Mr. Beynon was born in 1908, qualified in 1931, and was awarded the Diploma in Veterinary State Medicine in 1932. After a short period in general practice he entered the Ministry's service and between 1932 and 1938 was stationed at Weybridge, Glasgow, the Eastern Counties and Llangollen.

In the latter year, at the age of 29, he became one of the youngest Divisional Veterinary Officers on the Ministry's staff and during the next 14 years served in Wales, at Head Office, and in Devon. He became Superintending Veterinary Officer in 1952, taking charge of the South Wales area, and 6 years later became Regional Veterinary Officer for the whole of Wales. This year (1960) he was appointed D.C.V.O. and will take up an appointment in the Ministry's Head Office on October 1st.

In his youth Mr. Beynon was a notable footballer and played rugby for the Royal Veterinary College, London Welsh, and the combined universities of England and Wales. He is married, and has a grown-up daughter who is a journalist, and a son now entering Manchester University.

THE ROYAL SOCIETY OF HEALTH

On Friday, October 21st, in the Council House, Bristol, there will be held a symposium on "Recent Studies of Human and Animal Brucellosis: prospects for its control in the United Kingdom," by P. W. Bothwell, M.B., CH.B., D.P.H., A. McDiarmid, PH.D., D.SC., M.R.C.V.S., and J. F. Skone, M.D., D.P.H., M.R.S.H.

Current Literature

BOOK REVIEW

Development of the Poultry Industry in England and Wales, 1945-1959. Rupert Coles, B.A., M.Sc., Ph.D. Poultry World Ltd., London (1960). 7s. 6d.

This book presents an account of the changes which have taken place in the poultry industry of this country during the last 14 years.

The importance of these changes and hence the justification for this publication, is demonstrated by the fact that they have resulted in the industry developing from a position, in the year preceding World War II, in which approximately 29 per cent. of all shell eggs and about 21 per cent. of the poultry meat consumed in the U.K. were imported, to that of to-day when imports of these commodities have been reduced to negligible proportions.

With the aid of a considerable amount of data abstracted from official reports and reviews, the book clearly demonstrates the effect of Government legislature on the development and, in some instances, curtailment of various branches of the industry. Conversely the effect of developments in the industry on the shaping of Government policy is also commented on.

In addition to a section dealing with egg production, 1 section is concerned with the remarkable changes which have occurred in the table poultry industry which have lead to the replacement of the high cost, high price, traditional table poultry producers by the broiler industry.

Another interesting aspect of the inter-relationship of profit margins and production methods which is described is the stimulus which price reductions have on the general adoption of new methods of production, an example being in the winter periods of high prices. Some of the methods employed to lower production costs are criticised on a costing and profit basis and the information provided is of considerable value to the poultry keepers and farm economist.

In conclusion an assessment is presented of the present and future economic position of the poultry industry with reference to its dependance on a Government policy of guaranteed prices and, in the case of table poultry, the association between production costs and world food prices. Reference is also made to the Egg Marketing Board and its possible effect on the stabilisation of the industry.

The amount of information contained in this book is much in excess of what would be expected from its 80 pages and this has been achieved by the expert use of graphs and tables. No index is included but the system utilised of summarising the various topics dealt with under each chapter heading makes easy reference possible.

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Reproduction in the Dog, by A. E. Harrop. 1960. Baillière, Tindall & Cox. 30s.

A Guide to Canine Radiography, by S. Gould. 1960. The University of Queensland Press, Brisbane. A30s.

News and Comment

THE OFFICIAL OPENING OF CONGRESS

One of the largest audiences of recent years was present in the Bute Hall, University of Glasgow last Monday, to attend the formal opening of the 78th Annual Congress. The President, who was accompanied by Mrs. Hignett presided, supported by the Officers of the Association. The guest of honour and principal speaker was Sir Robert Calver, Sheriff Principal of the County of Lanark, who performed the opening ceremony.

The President said it was very much regretted that the Lord Provost of Glasgow would not be able to join them for the opening of the Congress; this year the Sheriff Principal of the County of Lanark, Sir Robert Calver, had kindly consented to perform the official opening. Sir Robert was well known to many members of the veterinary profession, since at one time he lectured in jurisprudence at the Royal (Dick) Veterinary College, and, furthermore, he had a son who was a veterinary surgeon having recently graduated at the Glasgow Veterinary School.

The Opening Address

Sir Robert Calver, who was received with applause, said that it was a very great privilege to be invited to open the Congress, and, naturally, he would first like to thank them for the honour. Secondly, in the absence of the Lord Provost, he wished as Sheriff, to welcome them to Glasgow.

If he had any entitlement to address them it was the fact that a lifelong weakness for horses and dogs had resulted in his having given sustained and practical, if unwilling support to the profession! Perhaps that was why his son had broken with tradition and entered the veterinary profession instead of his (Sir Robert's) own.

One of the few consolations of growing older was that one had so much of the past to remember, and he belonged to a rapidly dying race: those who had learnt to drive a horse before learning to drive a car. Someone in that position could see the change in the significance to the community of the profession which had taken place in slightly over half a century.

Of course, the profession always had very great men from much earlier times; and, because they were in Scotland, and because he once had the privilege of lecturing in the institution which perpetuated his name, he naturally thought of William Dick—that remarkable blacksmith who saw the future so clearly. But what seemed to have been special, and indeed spectacular, about the profession was the rapidity of its advance to becoming a band of scientists making a vital contribution to the public health and to the economy of the country.

That was probably largely due to a change in economics. But that was only the opportunity. What was much more important was that the profession attracted men and women of ability and devotion who were able and prepared to seize the opportunity—and devotion should be emphasised because veterinary surgery was a vocation and not a mere occupation.

Much of their work was beyond the understanding of a layman, as he had found when rather foolishly attempting to read the issue of THE VETERINARY RECORD which contained the transactions of the Association's last Congress. One was impressed by the scope of the subjects to which they had directed their attention. While unable to understand all their deliberations, he took a personal satisfaction in the fact that eradication of bovine tuberculosis was practically complete and that no child would have to suffer, as he had done, from having contracted an infection from milk. Even after so many years he had the most painful recollections of the treatment for that, although no doubt medical science also had advanced.

The delegates met to exchange knowledge; not for personal advantage but for the benefit of the community. In this age scientists could rarely work alone; it was a question of team work. And it seemed that in veterinary work the team was the whole profession. The pooling of the empirical knowledge which was acquired by the ordinary practitioner was an important contribution to the research of the scientists, such as their President.

For those reasons he and all the other beneficiaries of their past labours hoped that the discussions at the Congress would be fruitful. At any rate, they would approach their tasks as devoted public servants. If those pioneers who had been able to foresee something of the future could see them at Congress to-day they would be proud. (Applause).

Welcome to Delegates

The President then called upon the General Secretary to read the list of delegates to whom the Association wished to extend a very hearty welcome.

The list was as follows :—

Sir Robert Calver at the opening session of Congress. Seen with him, left to right, are the President, Mr. Hebeler, Mr. Jennings and Mr. Thomson.

Overseas Associations

Australian Veterinary Association (also representing High Commissioner for Australia), Mr. F. V. Collins, B.V.SC. (Commonwealth Veterinary Officer); Ceylon Veterinary Association, Professor C. A. McGaughey, M.A., M.SC., M.R.C.V.S., D.V.S.M. (VICT.) (Vice-Chairman of Association); Dutch Veterinary Association, Mr. G. M. van Waveren; Ghana Government, Mr. E. M. W. Oppong and Mr. G. A. Oduro, B.V.M.S., M.R.C.V.S.; Kenya Veterinary Association, Mr. John MacDonald, M.R.C.V.S.; New Zealand Veterinary Association (also representing High Commissioner for New Zealand), Mr. C. V. Dayus, M.R.C.V.S. (Agricultural Adviser); South African Veterinary Association, Dr. M. P. Sterne, D.V.SC., DIP. BACT.; High Commissioner for the Union of South Africa, Dr. R. K. Loveday (Onderstepoort); Ceylon Government, Mr. S. B. Dhanapala, B.V.SC.; Trinidad, Dr. I. V. Butcher, D.V.M., M.P.H.; Mauritius, Dr. J. D. Shuja, M.R.C.V.S.

Government Departments

Department of Agriculture and Department of Health for Scotland, Mr. D. S. Barbour, M.R.C.V.S. (Deputy Chief Veterinary Officer); Colonial Office, Mr. R. S. Marshall, C.B.E., M.R.C.V.S., D.V.S.M. (Adviser on Animal Health to Secretary of State); Isle of Man, Board of Agriculture, Mr. D. W. Kerruish, M.R.C.V.S. (Chief Veterinary Officer); Ministry of Agriculture, Fisheries and Food, Animal Health Division, Mr. A. G. Beynon, M.R.C.V.S., D.V.S.M. (Deputy Chief Veterinary Officer), and Mr. W. Grant, M.R.C.V.S.; Ministry of Agriculture, Northern Ireland, Dr. W. R. Kerr, M.R.C.V.S., D.V.S.M., B.SC., Mr. W. A. M. Gordon, M.R.C.V.S., B.AGR., Mr. J. S. Ogg, F.R.C.V.S., and Mr. J. E. C. Stuart, M.R.C.V.S.; Ministry of Health, Dr. J. M. Ross.

Local Authorities

Birmingham, Mr. A. Wilson, M.R.C.V.S., D.V.S.M.; Cardiff, Councillor W. Groves (Member of Health Committee) and Mr. J. H. M. Hughes, M.R.C.V.S., D.V.S.M. (Veterinary Officer and Abattoir Manager); Dundee, Mr. William Millar (Convener, Markets and Baths Committee) and Mr. A. Spreull, M.R.C.V.S. (Superintendent, Markets and Slaughterhouses); Edinburgh, Mr. J. Norval, M.R.C.V.S. (Veterinary Officer); Glasgow, Councillor Liddle, Councillor Meikle, Councillor Russell and Mr. S. G. Abbott, M.B.E., M.R.C.V.S., D.V.S.M. (Chief Veterinary Officer); Corporation of London, Mr. G. S. Wiggins, M.R.C.V.S. (Assistant Veterinary Officer); Manchester, Councillor J. Bowes (Deputy Chairman, Meat Inspection Sub-Committee), Councillor C. E. Bedgood, and Mr. F. P. Lawton, M.R.C.V.S., D.V.S.M. (VICT.) (Chief Veterinary Officer); Preston, Mr. F. J. Proctor, B.SC., M.R.C.V.S., D.V.S.M. (Veterinary Officer); Portsmouth, Mr. R. Scoular, M.R.C.V.S. (Veterinary Officer); Royal Army Veterinary Corps, Lt-Col. A. D. Seton, M.R.C.V.S., R.A.V.C., and Major W. H. Bishop, M.R.C.V.S., R.A.V.C., Royal College of Veterinary Surgeons, Mr. J. B. White, M.R.C.V.S. (Hon. Treasurer).

XUM

Universities with Veterinary Schools

Dublin, Trinity College, Professor J. T. Baxter, M.R.C.V.S. (Professor of Clinical Veterinary Practices); Royal (Dick) School of Veterinary Studies, Professor A. Robertson, M.A., PH.D., B.SC., M.R.C.V.S., F.R.I.C., F.R.S.E. (Director of the School); Liverpool, Professor E. G. White, D.SC., PH.D., F.R.C.V.S. (William Prescott Professor of Veterinary Preventive Medicine).

Other Organisations

Agricultural Institute, Animal Production Division, Dublin, Mr. J. P. Crowley, B.AGR.SC., M.V.B., M.R.C.V.S., Mr. N. E. Downey, M.R.C.V.S., and Mr. D. B. R. Poole, M.R.C.V.S.; Agricultural Research Council, Dr. R. Scarisbrick, M.A., M.R.C.V.S., A.R.I.C.; Commonwealth Bureau of Animal Health, Mr. Roy Mack, M.R.C.V.S. (Deputy Director); Milk Marketing Board, Mr. K. O'Sullivan, M.R.C.V.S. (Regional Veterinary Officer); The Royal Society of Health, Mr. W. Tweed, F.R.C.V.S., D.V.S.M.

Students' Unions

Dublin, Mr. J. J. O'Brien; Liverpool, Mr. G. V. Williams; Edinburgh, Mr. P. Cawardine.

Opening of Scientific and Trade Exhibitions

The President said that it was now his pleasant duty to open two most important sections of the Congress: the Scientific Demonstrations and the Trade Exhibition. The Scientific Demonstrations were organised by Dr. A. Greig. There were more than 40 separate exhibits—a truly magnificent tribute to the efforts of Dr. Greig and all others concerned.

Without a Trade Exhibition no B.V.A. Congress would be a success. It was necessary for the profession to lean heavily on the commercial houses, on which they relied for the weapons with which to tackle the various problems of animal disease. Without those weapons they could not relieve suffering among their animal patients; without those weapons they could not contribute as they did to the economic well-being of the country. They were very pleased to have the exhibitors with them once again.

He formally declared the Scientific Demonstrations and the Trade Exhibition open.

Mr. G. B. Sweatman, speaking for the Exhibitors' Committee of the Congress, thanked the President. The exhibitors felt that the exhibition was important from their point of view because it gave them an opportunity to present their shop window for one whole week; and members of the profession had the opportunity to look at the exhibits and to make observations and criticisms. The manufacturers would help and co-operate in any way. The Exhibition was well situated and a debt was owed to the Provisional Committee for their assistance and good will in its arrangement.

It was his pleasant duty, as a token of the exhibitors' esteem and respect, to present to the President's wife a silver compact which they hoped in years to come would be a reminder of a very successful year (Applause).

Mrs. Hignett was then presented with the gift and a bouquet.

"Dream Angus" Scotsmen will feel a touch at the heart at the title of this, one of the most beautiful among their folk songs. It was included in the programme given by the Kirkintilloch Junior Choir at the Civic Reception last Monday night. The singing of this choir, perfect in style and taste was among the most rare treats in the social programme of Congress week.

CONGRESS NOTES

The West of Scotland "At Home"

The traditional "At Home," when the host Division entertains the delegates, their wives and guests, was held in the Men's Union of the University on Sunday night after a short meeting of Council, whose deliberations will be reported in a forthcoming SUPPLEMENT.

The At Home was extremely well attended, and indeed it is possible even at the early stage in the week when these words are written, to say with confidence that this year's Glasgow Congress will be among the largest, numerically, of recent years. During a very happy (and not exactly silent) session old friendships were renewed and new ones made, full justice was done to a generous buffet, and the atmosphere—whatever the weather might decide—became set fair for the week. After supper the large company present moved upstairs to watch an excellent programme of films.

At the "At Home" given by the West of Scotland Division. Our picture shows, left to right, Mr. Campbell, Hon. Secretary of the Provisional Committee, Mrs. Weipers, Mrs. Thomson, the President of the B.V.A., Mrs. Campbell, Professor Weipers, Mrs. Hignett and Mr. Alex Thomson, President of the host Division.

The Church Service

Divine Service, to inaugurate this year's Annual Congress, was held last Sunday evening in the University Chapel. The Service, a simple one comprising prayers, Lesson—read by the President—hymns and a sermon, was conducted by the Rev. John Bodger, who also preached.

The theme of Mr. Bodger's address was the universally wide scope of the profession, its great power to be of benefit to society, especially where expanding populations make the production of more food highest in order of priority, and the fact that, among all sciences, there could be none more devoted to peace and human benefit than our own.

For a short time before the service began the congregation of veterinary surgeons and their friends was privileged to hear several organ voluntaries played by Mr. F. W. Rimmer, the University organist.

The Civic Reception

The Lord Provost of Glasgow, accompanied by the Magistrates, received the President, and Officers of the B.V.A., their wives and the delegates to Congress in the City Chambers on Monday night. After the formal reception the company moved into the banqueting hall where the Lord Provost (the Rt. Hon. Jean Roberts, J.P.) made a speech of welcome to which the President replied, recalling that his hostess was the first woman Lord Provost in the City's history.

After these proceedings the guests divided, some

joining the dancing and others attending a particularly delightful concert of vocal music given by the renowned Kirkintilloch Junior Choir under their conductor Meta Macpherson.

The President and Mrs. Hignett with the Lord Provost of Glasgow at the Civic Reception.

THE REGISTER OF VETERINARY SURGEONS

The under-mentioned ladies and gentlemen were admitted to membership of the Royal College of Veterinary Surgeons on the dates indicated:—

A. *In virtue of the Diploma of M.R.C.V.S.*

Bahnemann, Hans, DR. MED. VET. (BERLIN), Habicht Strasse 119, Hamburg, 33, Germany, July 25th, 1960, London; Patil, Rajashekhar Fakiragouda, B.V.SC. (BOMBAY), Mysore Veterinary College, Hebbal, Bangalore, 6, India, August 2nd, 1960, London.

B. *In virtue of registrable university veterinary degrees*

ABBOTT, John Ewing Dixon, Roseville, Gatehouse of Fleet, Castle Douglas, Kirkcudbrightshire, July 20th, 1960, B.V.M.S. (EDIN.); Allsup, Thomas Noel, 3, Mayfield Avenue, Haslingden, Lancs., July 20th, 1960, B.V.M.S. (EDIN.); Atkinson, William Ian, 299, Mortimer Road, South Shields, Co. Durham, July 20th, 1960, B.V.M.S. (EDIN.); Austin, Francis H., The Ward, Co. Dublin, July 9th, 1960, M.V.B. (N.U.I.); Brady, James Vincent, Gurteen, Arva, Co. Cavan, Eire, July 9th, 1960, M.V.B. (N.U.I.); Campbell, Edward George, 11, Gladstone Street, Hawick, Roxburghshire, July 20th, 1960, B.V.M.S. (EDIN.); Cogavin, Michael John, Gurteen, Ballinasloe, Co. Galway, Eire, July 9th, 1960, M.V.B. (N.U.I.); Condon, James Christopher, Kilgullane, Ballindangan, Mitchelstown, Co. Cork, Eire, July 9th, 1960, M.V.B. (N.U.I.); Cullen, Niall P., Deans Grange House, Blackrock, Co. Dublin, July 9th, 1960, M.V.B. (N.U.I.); Dawson, Peter Stockdale, B.SC. (BELFAST), Croaghan, Windsor Avenue, Newry, Co. Down, July 20th, 1960, B.V.M.S. (EDIN.); Downie, James Grant, B.SC. (PHYSIOL.) (EDIN.), Kirkstyle, Victoria Terrace, Kemnay, Inverurie, Aberdeenshire, July 20th, 1960, B.V.M.S. (EDIN.); Doxey, David Leonard, 21, Styal Road, Wilmslow, Cheshire, July 20th, 1960, B.V.M.S. (EDIN.); Duffy, Edward Patrick, Clonedergole, Clones, Co. Monaghan, Eire, July 9th, 1960, M.V.B. (N.U.I.); Eyre, Peter, 25, Surrey Street, Glossop, Derbyshire, July 20th, 1960, B.V.M.S. (EDIN.); Fairlie, George, 67, Chalmers Street, Dunfermline, Fife, July 20th, 1960, B.V.M.S. (EDIN.); Fingleton, Daniel Joseph, Rathemiska, Stradbally, Leix, Eire, July 9th, 1960, M.V.B. (N.U.I.); Footman, Brian, 3, High Street, Grovesend, Pontardulais, Glam., July 20th, 1960, B.V.M.S. (EDIN.); Gill, Kenneth Alexander Kilgour, Douglashead, Tarves, Aberdeenshire, July 20th, 1960, B.V.M.S. (EDIN.); Goad, Lewis, Olmonds Farm, Dent, Nr. Sedbergh, Yorks, July 20th, 1960, B.V.M.S. (EDIN.); Gray, William Robert, 19, Newgrove Avenue, Sandymount, Dublin, July 9th, 1960, M.V.B. (N.U.I.); Griffin, James Michael, Mill Street, Pettigo, Co. Donegal, Eire, July 9th, 1960, M.V.B. (N.U.I.); Harcourt, Ralph Alexander, 31, Craiglea Drive, Edinburgh, 10, July 20th, 1960, B.V.M.S. (EDIN.); Harold-Barry, John Francis Joseph, Prietown House, Drangan, Thurles, Co. Tipperary, Eire, July 9th, 1960, B.A., M.V.B. (T.C.D.); Hennessy, Bryan Patrick, Mount Alto, New Ross, Co. Wexford, Eire, July 9th, 1960, M.V.B. (N.U.I.); Hickey, John Joseph, Reddans House, Ardfinnan, Clonmel, Co. Tipperary, Eire, July 9th, 1960, M.V.B. (N.U.I.); Irwin, Verney Christopher Robin, Ivy House, Willand, Nr. Cullompton, Devon, July 20th, 1960, B.V.M.S. (EDIN.); Jackson, Peter Giles Grenville, 65, Rock Road, Cambridge, July 20th, 1960, B.V.M.S. (EDIN.); Keane, Denis Christopher, Inchingearig, Drimoleague, Co. Cork, Eire, July 9th, 1960, M.V.B. (N.U.I.); Keane, Timothy Albert, Ballyferriter, Dingle, Co. Kerry, Eire, July 9th, 1960, M.V.B. (N.U.I.); Leeman, Pooler Thomas Fredrick George, Ennislare House, Armargh, N. Ireland, July 9th, 1960, B.A., M.V.B. (T.C.D.); Liversage, Diana (Miss), Bentra, Ballycarry, Co. Antrim, July 9th, 1960, B.A., M.V.B. (T.C.D.); McCaughey, William John, Millbrook, Aughnadore, Broughshane, Co. Antrim, July 9th, 1960, B.A., M.V.B. (T.C.D.); McGeady, Thomas, Anthony, 28, Lansdowne Park, Ballsbridge, Dublin, July 9th, 1960, M.V.B. (N.U.I.); McHenry, Daniel Francis, Lower Ballinderry, Co. Antrim, July 9th, 1960, M.V.B. (N.U.I.); Macmillan, Elizabeth Gwendoline Moira (Miss), 8, Ballyloughan Terrace, Ballymena, Co. Antrim, July 20th, 1960, B.V.M.S. (EDIN.); Mair, Malcolm Lamont, Oaklands, Clarendon Road, Alderbury, Nr. Salisbury, Wilts., July 20th, 1960, B.V.M.S. (EDIN.); Middleton, Nigel Trevor, 5, Thorn Road, Bramhall, Nr. Stockport, Cheshire, July 20th, 1960, B.V.M.S. (EDIN.); Moar, John Andy Edwin, 55, Burgh Road, Lerwick, Shetland, July 20th, 1960, B.V.M.S. (EDIN.); Moore, Alexander, 26, Clothesholme Road, Ripon, Yorks, July 20th, 1960, B.V.M.S. (EDIN.); MURPHY, James Edward, Ballyjamesduff, Co. Cavan, Eire, July 9th, 1960, M.V.B. (N.U.I.); Noone, John Patrick, Mount Street, Claremorris, Co. Mayo, Eire, July 9th, 1960, M.V.B. (N.U.I.); Oduro, Gottfried Abrokwah, A/24, Asamang Street, Oyoko, New Juabeng, Ghana, July 20th, 1960, B.V.M.S. (EDIN.); O'Reilly, Louis Mary, 8, Falcarragh Road, Whitehall, Dublin, July 9th, 1960, M.V.B. (N.U.I.); Pratt, John Hay, Whitehaugh, Old Meldrum, Aberdeenshire, July 20th, 1960, B.V.M.S. (EDIN.); Robson, Richard Peter, 32, Brecks Crescent, The Brecks, Rotherham, Yorks, July 20th, 1960, B.V.M.S. (EDIN.); Rollo, David Gordon, 57, King's Road, Berkhamsted, Herts., July 20th, 1960, B.V.M.S. (EDIN.); Sharpe, John James, 4, Haigh Terrace, Dun Laoghaire, Co. Dublin, July 9th, 1960, B.A., M.V.B. (T.C.D.); Smith, Frederick Howard, Ard na Mara, Whitshed Road, Greystones, Co. Wicklow, Eire, July 9th, 1960, M.V.B. (N.U.I.); Smith, Margaret Elizabeth (Miss), 12, Kilmaurs Terrace, Edinburgh, 9, July 20th, 1960, B.V.M.S. (EDIN.); Smith, William Oliver, Liss, Oldcastle, Co. Meath, Eire, July 9th, 1960, M.V.B. (N.U.I.); Smyth, Vincent Oliver, Ringtown, Castlepollard, Co. Westmeath, Eire, July 9th, 1960, M.V.B. (N.U.I.); Somerville, John Ross, 5, Meadowplace Road, Edinburgh, 12, July 20th, 1960, B.V.M.S. (EDIN.); Spence, Albert Brown, West Lynn, Holm Road, Kirkwall, Orkney, July 20th, 1960, B.V.M.S. (EDIN.); Taylor, Stuart Macaulay, 33, Boswall Crescent, Edinburgh, 5, July 20th, 1960, B.V.M.S. (EDIN.); Thomas, Gruffydd Wyn, Waterloo House, Dolgellan, Merioneth, N. Wales, July 20th, 1960, B.V.M.S. (EDIN.); Tindall, John Richard, Bank House, King Street, Clitheroe, Lancs., July 20th, 1960, B.V.M.S. (EDIN.); Vaughan-Birch, Allen, 33, Mount Avenue, Hemsworth, Pontefract, Yorks, July 20th, 1960, B.V.M.S. (EDIN.); Walton, John Roger, 4, Chatham Place, Deepdale, Preston, Lancs., July 20th, 1960, B.V.M.S. (EDIN.).

THE COLONIAL VETERINARY SERVICE

Mr. H. W. C. Newlands, Assistant Director of Veterinary Services, Tanganyika, now Deputy Director of Veterinary Services and Animal Industry, Uganda.

PERSONAL

Professor Martin Roth, M.D., Professor of Psychological Medicine, University Durham, will officiate at the opening ceremony of the London Medical Exhibition to be held at the Horticultural Hall, November 14th to 18th, 1960.

Dr. R. V. Short, of the Agricultural Research Council Unit of Reproductive Physiology and Biochemistry, Magdalene College, is to be a University Lecturer in Animal Health in the Department of Veterinary Clinical Studies. The tenure is for three years from January 1st, 1961.

At the Sixth International Congress of Microbiological Standardisation, which is to be held in Wiesbaden (Germany) from September 5th to 10th, **Dr. Stableforth** and **Mr. E. C. Hulse,** Head of the Biological Products and Standards Department at the Central Veterinary Laboratory, Weybridge, will be giving papers on the proposed international standard for Newcastle disease vaccine and on bacterial viability counting techniques, respectively.

At the Second International Symposium for the Eradication of Bovine Tuberculosis, which is to be held in Rome and Pisa from September 27th to October 2nd, **Dr. Stableforth** will also be giving a paper with regard to the disease position in this country. The visit to be preceded by a two-day visit to Geneva, as an FAO Observer, the WHO Expert Committee Meeting on Biological Standardisation.

Mr. J. M. Collins, Senior Experimental Officer, is attending the Second International Course of Hyophilisation at Lyon from August 29th to September 9th.

Births

GREENWOOD.—On August 20th, 1960, to Pamela, wife of Malcolm T. Greenwood, B.VET.MED., M.R.C.V.S., 4, Walker Street, Cockermouth, Cumberland, a son, Jeremy Robin, a brother for Timothy.

HENDERSON.—On August 29th, 1960, to Sheila and Nick Henderson of "Birkwray," Oak Grange Road, West Clandon, Surrey, a son.

REES.—On August 25th, 1960, at Salisbury, S. Rhodesia, to Margaret (*née* Lovegrove) and Lynn Rees, MS.R.C.V.S., a daughter, sister for Jennifer, Michael, and Christopher.

R.C.V.S. OBITUARY

We record with regret the death of the following member of the profession:—

Supplementary Veterinary Register

BLAKEMORE, Kenneth Bertram James, 62, Corporation Street, Hyde, Cheshire. Died August 22nd, 1960.

UNIVERSITY NEWS

Dublin

At commencements held on June 30th, 1960, the degree of Bachelor of Veterinary Medicine (M.V.B.) was conferred on the following:—

Harold-Barry, John Francis Joseph; Leeman, Thomas Frederick George Pooler; Liversage, Diana; McCaughey, William John; Sharpe, John James.

At a later ceremony the new graduates were admitted to membership of the veterinary profession by Professor H. G. Lamont, O.B.E., D.SC., M.R.C.V.S., who represented the Royal College of Veterinary Surgeons, and Mr. J. A. Flynn, M.R.C.V.S., who represented the Veterinary Council of Ireland.

COMING EVENTS

September

7th (Wed.). General Meeting of the South Wales Division at the Golden Grove Farm Institute, Llandilo, Carms., 2.15 p.m.

Meeting of the B.S.A.V.A. Sussex Region at the New Imperial Hotel, First Avenue, Hove, 8 p.m.

14th (Wed.). Yorkshire Division: one-day Poultry Course at the Yorkshire Institute of Agriculture, Askham Bryan, York, 10.30 a.m.

15th (Thurs.). Meeting of the Supplementary Veterinary Register Division at 7, Mansfield Street, Portland Place, London, W.1, 2.30 p.m.

21st (Wed.). Joint Meeting of the North Wales Division with local Branches of the British Medical Association for a Symposium on Brucellosis at the Imperial Hotel, Llandudno, 2 p.m.

General Meeting of the Society of Practising Veterinary Surgeons at the Victoria and Station Hotel, Preston, Lancs., 8 p.m.

23rd (Fri.). First Meeting of the B.S.A.V.A. branch at the Golden Lion Hotel, Stirling, 6.30 p.m.

26th (Mon.). Meeting of the Yorkshire Division at the Talbot Hotel, Malton, 8 p.m.

October

5th (Wed.). Meeting of the R.A.V.C. Division at the Equine Research Station, Balaton Lodge, Newmarket, 11 a.m.

6th (Thurs.). Meeting of the Technical Development Committee of the B.V.A. at 7, Mansfield Street, Portland Place, London, W.1, 10.30 a.m.

27th (Thurs.). Meeting of the Society for the Study of Animal Breeding at the Society's House, 1, Wimpole Street, London, W.1, 11.30 a.m.

ADDRESSES OF DISEASE INFECTED PREMISES

The list given below indicates, first the county in which are situated the premises on which disease has been confirmed, followed by the postal address and date of outbreak.

Anthrax

Worcs. Hundred Acres Farm, Broome, Clent, Stourbridge (Aug. 25)

Fowl Pest

Essex. Abbots Moat, Wimbish, Saffron Walden; Lynfield Poultry Farm, Maldon Road, Margaretting, Ingatestone (Aug. 21).

Surrey. Barrsbrooke Farm, Chertsey (Aug. 19); The Knowle, Guildford Road, Chertsey (Aug. 20); Cottage Farm, Cobbetts Lane, Yateley, Camberley (Aug. 24).

Warwicks. Glebe Farm, Berkswell, Coventry (Aug. 22);

Reeves Green Farm, Benton Green Lane, Berkswell, Coventry (Aug. 24).
Yorks. Highway Poultry Farm, Meanwood, Leeds (Aug. 23).

Swine Fever

Caerns. Carreg Cil Coed, Pentir, Bangor (Aug. 23).
Ches. Old Beachins Farm, Churton, Broxton; Lane Ends Farm, Marston, Northwich (Aug. 19); Castleside, Beeston, Tarporley; Hawthorn Farm, Cholmondeston, Nantwich; Bell Farm, Tusingham, Malpas; Elm Farm, Calveley, Tarporley; Fields Farm, Wrenbury Frith, Wrenbury, Nantwich (Aug. 22).
Devon. Piggeries at Part Coulson, Winkleigh (Aug. 19).
Essex. Ashwells Farm, Pilgrims Hatch, Brentwood (Aug. 22); White House, St. John's Road, Clacton-on-Sea (Aug. 23).
Hants. Whitedirt Farm, Clanfield, Portsmouth (Aug. 25).
Lancs. Sowerby Lodge Piggery, Sowerby Woods, Barrow-in-Furness (Aug. 19); Brockhall Hospital Farm, Old Langho, Blackburn (Aug. 25).
Norfolk. Poplar Farm, Old Buckenham, Attleborough (Aug. 19); Home Farm No. 3, Hoxne, Diss (Aug. 24).
Northants. The Piggery, Home Farm, Upper Heyford (Aug. 23).
Notts. Wood View, South Clifton, Newark (Aug. 24).
Salop. Upper Brondon Farm, Bridgnorth (Aug. 19).
Somerset. Yarborough Farm, Banwell, Weston-super-Mare (Aug. 22).
Staffs. Manor House Farm, Paradise, Coven, Wolverhampton (Aug. 24).
Suffolk. The Paddocks, Worlingworth (Aug. 25).
Warwicks. Chestnut Bank, Priors Marston, Rugby (Aug. 19).
Worcs. Hill Farm, Bourncheath, Bromsgrove (Aug. 22).
Yorks. Inholmes Farm, Beeford, Driffield (Aug. 25).

Letters to the Editor

The views expressed in letters addressed to the Editor represent the personal opinions of the writer only and their publication does not imply endorsement by the B.V.A.

Destruction of Race-horses on the Course

Sir,—It is most gratifying to see from the X-ray photograph of "Angers's" foreleg that the decision taken at the time was justified in the light of our present knowledge of large-animal orthopaedic surgery. However, this does not remove from one's mind the doubt as to the adequateness of a necessarily difficult manual examination executed under conditions of great mental tension and responsibility before the decision to carry out euthanasia was reached. Anyone who has attempted open fracture repair techniques in small animals—without the benefit of properly taken X-ray photographs—must be well aware, even after careful manual examination under anaesthesia, of the shocks one gets when the fracture site is finally exposed.

No veterinary surgeon in his right mind would seek to minimise the difficulties involved in this sort of work, many of which were enumerated by Mr. Bell. But surely these same difficulties should not be just an excuse for inactivity, but a spur to still greater efforts.

I am informed that one of the big difficulties is the attitude of the insurance companies who, though prepared to pay in full for cases destroyed, are not prepared to pay anything for incapacity. So often there is a vast financial gap between a mare fit to race and an incapacitated, so far as racing is concerned, brood mare. In America I believe strenuous efforts are being made to alter this position and to come to terms with the insurance companies.

Research into the practical difficulties of getting injured horses off the track would soon lead to profitable results, I feel sure. Great progress has been made with the use of the so-called tranquillisers; these, combined with the short-acting type of barbiturate, already suggests a possible means of casualty control prior to the removal of the animal for a more detailed examination.

I agree with Mr. Bell that comparisons between small-animal and human orthopaedics are unsatisfactory. Comparative medicine and anatomy are interesting studies, but they should not be allowed to dominate the view. It is time that there was a new approach to the whole field of orthopaedic surgery in large animals now that we have the benefit of improved anaesthetic techniques, modern X-ray equipment, improved surgical techniques and the various antibiotics. I feel that the first priority should be a special study of the mechanics of locomotion, which would yield information on the stresses and strains which are withstood by the various tissues. These studies would serve as a guide to the methods and types of materials which should be used in any future attempt at surgery.

Finance for all this would be a major problem, but the Jockey Club would have the public behind it in any honest attempt to salvage these animals. Not being an expert on racing finance, one wonders what a surcharge of, say, 3d. a head on admission would add up to in a year. Given such finance the Animal Health Trust might well be encouraged to develop a unit, together with the necessary mobile teams, to deal specifically with orthopaedic procedures.

All this I am sure will be regarded as rather visionary in nature, but it is now that we need people of vision and determination to stir the efforts of the rest of us.

I am afraid I am also guilty (according to Mr. Bennet) of criticising from afar, as the nearest I get to the subject is when I have to destroy a hunter or pony that has met with an unfortunate accident. To this I reply that, without the spurs and pricks of honest criticism, progress would be slow, and if we do not progress in this, we shall fall still further in the esteem of the horse-loving public and of people in general.

Yours faithfully,
HUGH D. CORYN.

Thoby Priory Lodge,
Thoby Lane,
Mountnessing,
Essex.

August 27th, 1960.

Survival Despite an Imperforate Anus

Sir,—I write to record the case of a male Boxer puppy which survived for 26 days in excellent health despite having an imperforate anus. My attention was drawn to the puppy by the owner's observation that following a meal the puppy's abdomen was more obviously distended than those of its litter-mates. The puppy was no less vigorous than its fellows and its appetite was as good as that of any of them. The owner was not willing to keep the puppy alive until it showed signs of ill-health; it was, therefore, destroyed.

At *post-mortem* examination the rectum and colon were grossly distended, together measuring 5 × 1½ inches. The rectum terminated close to the anal ring. There was no communication with the urogenital tract. There was a small vermiform appendix at the junction of the large and small intestines.

My amazement at the puppy's survival has been tempered by the subsequent discovery that Smythe (1959) refers to piglets surviving as much as 3 weeks with imperforate ani, and that O'Connor (1950) states that exceptional cases have been known to survive several weeks. Perhaps, however, the exceptional nature of the case justifies my drawing your attention to it.

Yours faithfully,
BRYAN BOSWOOD.

16, Shorter Avenue,
Shenfield,
Brentwood,
Essex.
August 18th, 1960.

References

O'CONNOR (1950). "Dollar's Veterinary Surgery." 4th ed. P. 691.
SMYTHE (1959). "Clinical Veterinary Surgery." Vol. 1. P. 288.

Cobalt Bullets

Sir,—The evidence of the advertisement by Messrs. Aspro-Nicholas, published in your issue of August 20th, was based on Australian experiments, some of which were carried out on pastures only *suspected* of cobalt deficiency. The geology of Britain differs from that of Australia and one would expect the mineral content of British herbage to differ also. In other words, what evidence is there to show that there is a simple cobalt deficiency in any part of Britain, with the possible exception of the sandy soils of S.W. Ireland?

There is strong evidence to show that the old red sandstone areas of the Hereford-Monmouthshire border show a shortage of cobalt (in varying extent) in the herbage. But at the same time, blood and liver samples of beasts reared in this area show a definite copper deficiency. Again iodine has, in this same area, been implicated as a deficient element. The same is possibly true in other parts of Britain. Nature is never so simple as is implicated by the manufacturers of the Cobalt Bullet; generally there seems to be a shift of balance and there is importance in the interrelationship of a number of factors.

Again, clinical evidence of cobalt or copper deficiency is more often seen in this area on farms with poor pasture management and animal husbandry. So it would seem that instead of treating the problem in its narrowest sense, as a single element deficiency, it would be more rational to take a broader perspective and treat the land or animals with a composite mineral mixture.

The advertisement also claims that cobalt can be given "more conveniently, cheaply and effectively by means of the Cobalt Bullet than any other method." This I very much doubt; let us take them in turn:—

(1) Convenience. The effort, time and danger experienced with the job of handling large numbers of beasts (of all ages and sizes) and then balling each and every one, especially in beef herds, compared with feeding a mineral mixture *ad lib.* in the fields, or applying a mixture to the ground, seem to me to be excessive.

(2) Cheapness. The Bullets are expensive compared with the N.A.A.S. costings of spraying cobalt on the pastures. This latter is required but once every 5 years, and one must bear in mind that not only do all species of animals benefit from this method, but the cobalt is ingested in a more desirable organic form.

(3) Effectiveness. There is a lot of evidence to show that a high proportion of the animals lose their Bullets after a few weeks. This not only increases the direct cost, but the farmer does not know which beasts have retained the Bullets until they lose condition. The J.A.V.M.A. showed the following figures taken from cattle X-rayed a few weeks after administration of Cobalt Bullets:

6 to 8 weeks old	89 per cent. retention
6 to 9 months old	96 per cent. retention
10 to 20 months old	84 per cent. retention
Lacating Dairy Cows	43 per cent. retention

Bearing in mind that probably the majority of Cobalt Bullets are, in this country, given to the older animals rather than calves, the complacent administration of this product as a panacea for poor growth rates is in my opinion to be deprecated.

Yours faithfully,
R. SCOTT CAMERON.

98, Monnow Street,
Monmouth.
August 21st, 1960.

Antibiotics and Infection of the Equine Peritoneum

Sir,—The resistance to infection of the bovine peritoneum is well known, and I think the following case shows that with the help of antibiotics the equine peritoneum can be equally resistant.

A two-year old Welsh Mountain Pony was covered by a T.B. stallion and immediately after service showed signs of discomfort. Small intestine then protruded from the lips of the vulva and she could not be prevented from rolling in pain on the ground.

Examination revealed a large mass of grossly contaminated small intestine hanging from the vulva.

The pony was anaesthetised with thiopentone sodium and hobbled, the small intestine was washed and returned to the abdomen through a large tear in the vagina to the right of cervix, through which the hand passed very easily. At this stage the thio-

pentone anaesthesia was lightening, and straining against the hand made suturing of the vaginal tear impossible. Epidural anaesthesia was then given and the tear sutured, not without difficulty, with No. 4 catgut. The lips of the vulva were sutured also. Penicillin and streptomycin were given for 3 days and at no time following was there any systemic disturbance or elevation of temperature. The pony was eating normally on the day after, and when seen last week, 10 days after the accident, she was behaving quite normally.

Yours faithfully,
K. S. MITCHELL.

Porth-y-carne House,
Usk,
Monmouthshire.
August 14th, 1960.

Trichomonas Disease

Sir,—Mr. Wood's letter (August 13th) recording an outbreak of trichomoniasis in North Staffordshire after a lapse of 10 years and his observation that the disease may well be more widespread than is realised makes interesting reading.

In the past few years we have tended to believe that this disease no longer existed in this country and consequently tended to forget its potential existence particularly when it had been conclusively demonstrated from many sources, other than from trichomoniasis, most of the infectious infertility (in Scotland at least) was venereal in origin and was due to vibriosis. The accent therefore during the past 10 years has been rightly directed towards vibriosis, its epidemiology, its diagnosis and its treatment. With the widespread use of proper control measures, artificial insemination and the test mating of bulls standing at the centres and antibiotic therapy vibriosis would now appear to be on the way out and no longer a problem. It is therefore disturbing that after this campaign we should be confronted by a return of trichomoniasis.

Trichomoniasis was diagnosed by this laboratory in 1959 after a lapse of many years and to date in this one outbreak 5 farms are so far involved, 7 pedigreed Aberdeen Angus bulls are infected and 2 more bulls are circumstantially implicated although the organism has not yet been demonstrated in preputial washings.

The disease as seen in this outbreak has been of a chronic nature and has taken the form of a low-grade infertility. A semi-acute flare-up, however, occurred when the disease was introduced to susceptible stock and it was during this flare-up that the flagellate was demonstrated in the discharge from a 7-month pyometra. The chronic nature of the disease was instanced by the fact that in the course of the investigation an outwintered suckler herd using 4 bulls was found to be affected where the disease must have existed for at least 2 breeding seasons and where the sole symptom was a chronic discharge-free infertility. This had resulted in an increasing number of temporarily barren cows and a prolongation of the calving period. Abortion was not a feature of this outbreak and indeed no case was recorded.

It would appear therefore that those workers still engaged in investigating outbreaks of infertility should not forget trichomoniasis even although the symptoms of the outbreak do not add up to the classical picture one used to associate with this disease in the past.

Yours faithfully,
D. W. DEAS.

The Edinburgh School of Agriculture,
West Mains Road,
Edinburgh, 9.
August 24th, 1960.

Cleft Palate in Animals

Sir,—I am interested in studying the condition of cleft palate in animals and wonder if I might appeal through your readers for specimens?

For the past 10 years I have been treating cleft lip and palate in children and have come to the conclusion that, apart from the cleft, they are otherwise normal and tough. I now wish to make a comparative study in dogs and other animals, and I should like to receive live specimens, if possible. I am prepared to refund postage on dead specimens and I would collect live puppies if the distance from London were not prohibitive.

The sources of all puppies and other animals would, of course, be confidential but they would be of considerable help to medical and veterinary science.

Yours faithfully,
JAMES CALNAN.

Department of Experimental Surgery,
Post-graduate Medical School,
Ducane Road,
London, W.12.
August 26th, 1960.

DISEASES OF ANIMALS ACT, 1950—GREAT BRITAIN
Summary of Returns of Confirmed Outbreaks of Scheduled (Notifiable) Diseases

Period		Anthrax	Atrophic Rhinitis	Foot-and-Mouth	Fowl Pest	Sheep Scab	Swine Fever
1st to 15th August, 1960		7	—	—	20	—	42
Corresponding period in	1959	5	—	—	29	—	37
	1958	2	—	2	55	—	44
	1957	6	—	1	20	—	48
1st January to 15th August, 1960		142	—	14	1,377	—	741
Corresponding period in	1959	140	—	9	466	—	732
	1958	104	3	113	426	—	865
	1957	248	6	38	536	—	616